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AUTHOR Cazden, Courtney B.; Belendez-Soltero, Pilar

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ABSTRACT

The acquisition of Spanish as a first language was investigated in a study of eight Puerto Rican children ranging in age from 17-39 months. The speech of the four children studied in Puerto Rico was analyzed in detail and compared with that of the four children taped in Boston. The children's speech was taped in natural situations and analyzed in terms of the accuracy and complexity of the verb system. A common developmental pattern for the acquisition and appearance of the verb system was observed. For most of the children, repetitions seemed to influence verb system development. In comparison with the Boston group, the Puerto Rican group showed more diversity in developmental patterns. In general, the Puerto Rican children were more similar to the Boston children (individually) than to one another. (Author/RW)

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THE ACQUISITION OF SPANISH AS A FIRST LANGUAGE

Courtney B. Cazden
Harvard University

Pilar Beléndez-Soltero
Inter-American University
San Juan, Puerto Rico

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ABSTRACT

This study reports the Spanish language development of eight (8) Puerto Rican children, whose ages ranged form 17 to 39 months throughout the study. Four(4) of the children were taped in Boston (Belén.dez, 1980), the other four (4) were taped in Puerto Rico. This report discusses in detail the analysis of the speech of the children taped in Puerto Rico: Lina, Ginnie, Adrián and Javier. These findings were compared with that of the Boston children: Rafael, Felix, Carlos and Amed.

The children were taped in natural situations while interacting with the researchers, who were familiar with them. The analysis performed was on the accuracy and complexity of the verb system, which in Spanish is highly inlfected, and differs markedly from its English counterpart. Utterances with explicit verb forms were extracted from the corpus and classified as contextually "appropriately" or "inappropriately" inflected for tense and person. These forms were further classified as repetitions and spontaneous. Each of these sets was analyzed separately in order to determine if imitation was influencing the development of the verb system. The "errors" were further analyzed.

A common developmental pattern of the acquisition and appearance of the verb system was found, similar to that previously found for the Boston children. In the majority of the children, repetitions seemed to influence the development of the verb system, as the accuracy of the set of repetitions was significantly lower than that for the spontaneous set.

The comparisonof the Boston and Puerto Rico children revealed that there was more diversity in the patterns of the Puerto Rico children than the Boston children. In general, the Puerto Rico children were more similar in their development to the Boston children (individually) than to each other. These differences and similarities could not be attributed to age, social class, or exposure to English.

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I. INTRODUCTION

In recent years, there has been a considerable amount of research on the acquisition of English as a first language and as a second language. A relatively small amount of work has been conducted in the acquisition of Spanish as a first language. In this project we undertook an examination of the development of Spanish as a first language by young children learning Spanish as a first language in Boston and in Puerto Rico. The goal of the study was to gather data on the developmental patterns for various grammatical forms. The results of the research are relevant to bilingual, English as a second language and Spanish teachers, and to researchers in the field of language development.

RATIONALE

Spanish-speakers constitute the largest linguistic minority of this country, with Mexican-Americans and Puerto Ricans comprising the majority of the group. Most Spanish-speaking children are raised in homes where the predominant language is Spanish, thus making it the first language they learn. For many of these children, exposure to English before they enter school or preschool programs is very limited. Thus, there is a considerable number of Hispanic children who enter school or preschool programs with little or no knowledge of English. Therefore, in terms of educational practice, it will be the responsibility of these schools and programs to teach English to these children.

However, the acquisition of English, their second language, does not occur in a vacuum; it occurs in the presence of Spanish, their first language. Thus, adequate consideration should be given to the influence of the first language (Spanish) in the acquisition of the second language (English). Although interpretations of the degree of influence of the first language in the process of acquiring a second language varies, it is generally acknowledged that there is influence. Dulay and Burt (1974) conceive the process of acquiring a second language as almost identical to that of acquiring the first language, while Cancino and Hakuta (1977) conceive that the order of acquisition of English morphemes* for second language learners is an interplay of, several

* Morphemes - smallest meaningful unit of speech.

factors, including transfer from the native language.

Cancino (1976) compared the order of acquisition of selected English morphemes by Marta, a 5 year old Spanish-speaking child, with that of Uguisi (Hakuta, 1974), a 5 year old Japanese-speaking child; Jorge (Rosansky, 1976), a Spanish-speaking adolescent; and Adam, Eve and Sarah (Brown, 1973), who learned English as their first language. Her analysis revealed stronger similarities between Jorge and Marta, who shared the same first language, but whose ages and cognitive development were very different, followed by similarities with Adam, Eve and Sarah. The differences in the order of acquisition of English morphemes by Marta and Uguisi, who showed the least similarities, were traced to the differences in the structures of English and Japanese with respect to English, thus providing strong evidence that the structure of the first language affects how the second language is acquired, and instances in which this transfer could be considered positive or negative. (E.g., Spanish has articles, while Japanese does not; accordingly, articles were an early acquisition for Marta and a late one for Uguisi. The structure of the possesive is similar in English to that of Japanese and different from that of Spanish; for Uguisi possessives were an early acquisition, for Marta they were a late one.)

To the extent that there is almost no knowledge of the acquisition of first languages other than English, the interpretation of research in English as a second language has limitations. Researchers in this area are forced to view the first language as: (1) having exactly the same characteristics as the "standard"* language, and (2) as if its development in the subjects under study was complete. The assumption, explicit or implicit, is that whatever influence the first language has on the acquisition of the second language will be based solely on the structure of the "standard"* first language acquired and not on the process by which it was acquired. This assumption cannot be taken for granted, especially so in the case of children, whose language is still in the process of formation. Thus the need for longitudinal research in the first language, which will be discussed next.

* By "standard" we mean having the same structure described in grammar books.

METHODOLOGY

Studies of language acquisition have been conducted both longitudinally and cross-sectionally. Longitudinal studies are more time consuming, as they follow a small number of subjects for a long period of time. But with their results we are able to determine a pattern of development, that is, the process itself. Cross-sectional studies include a larger number of subjects within a given range, but they describe only one point in time for each of the subjects.

The first major longitudinal study on language acquisition was conducted by Brown (1973). He and his colleagues followed the language development of three English-speaking children, and found an almost invariant order of acquisition of selected morphemes. This study served as an important basis for subsequent research on language acquisition, and its results have been widely cited and used as comparison with other studies. De Villiers and De Villiers (1973) corroborated the almost invariant order of acquisition of these morphemes in a cross-sectional study. The longitudinal study, followed by the cross-sectional one, provided strong evidence on how these morphemes are acquired by native English speakers.

Longitudinal studies have also been conducted on the acquisition of English as a second language (Cazden et.al., 1975; Hakuta, 1974). These studies have allowed for the observation of the second language acquisition process itself, and have revealed patterns that a cross-sectional study could not have revealed (e.g., the acquisition of prefabricated patterns by Uguisi (Hakuta, 1974); the sudden acquisition of rules for the use of in and on by Marta (Cancino, 1976)).

The knowledge of the acquisition of the first language obtained through longitudinal studies will enable second language acquisition (English) researchers to compare the acquisition not only with the structure of the "standard" first language, but also with its process of development. Thus, interpretations of the influence of the first language in the second language acquisition will be more accurate.

This study, by focusing on the longitudinal development of Spanish as

a first language, addresses this issue for Spanish-speakers.

SCOPE

The focus of the study was on the development of the verb system, since this is an area in which Spanish and English differ most. The Spanish verb system is highly inflected, as there is a form associated with each person (I, you, s/he, we, you, they) in each tense; the English verb system has fewer inflections. We can illustrate these differences by mentioning the present indicative tense: Spanish has six different forms for each verb (e.g., "comer"-to eat-has the following forms: "como"-I eat-, "comes"-you eat-, "come"-s/he eats-, "comemos"-we eat-, "comen"-you eat-, and "comen"-they eat-), while English has only two (eat-I, you, we, you, they and eats-s/he-). The inflected form in English (third person singular) is the unmarked form in Spanish.

RELEVANCE

The results of this study will be relevant to bilingual, English as a second language and Spanish teachers, and to researchers in the field of first and second language acquisition. For bilingual and English as a second language teachers, the information can be used to explain and/or predict difficulties Spanish-English bilinguals might have in dealing with two structurally different languages based on the developmental history of both languages. For teachers of Spanish, it will provide the natural sequence in which the language is acquired by native speakers, which can be used to prepare curricula. For researchers, it will contribute to fill the gap in knowledge of the acquisition of languages other than English; and for researchers in the area of English as a second language who study Spanish-speakers, it will provide the developmental history of the first language of their subjects.

In our original proposal, we proposed to analyse the acquisition of the Spanish verbs system by 4 Puerto Rican children living in the Boston area and learning Spanish as a first language. Then

Ms. Belendez's plans changed and she returned to Puerto Rico to continue the study where the children would be free from contamination by the English-speaking environment in the U. S. This final report includes the analysis of the acquisition of Spanish as a first language by 4 children in Boston (Belendez, 1980) and by 5 children in Puerto Rico.

II. LITERATURE REVIEW OF SPANISH LANGUAGE ACQUISITION

Studies on the acquisition of Spanish as a first language have been conducted both in Spanish-speaking countries and with Spanish-speaking populations in the United States. Altogether they are few in number, and only three of them included children two years of age or younger. The studies will be separated into those conducted in Spanish-speaking countries and those conducted in the United States.

STUDIES CONDUCTED IN SPANISH-SPEAKING COUNTRIES

The studies identified were conducted in Mexico, Guatemala, Colombia and Puerto Rico. In México, Kernan and Blount (1966) studied the acquisition of grammatical rules in a cross-section of rural children using a Berko-type test. In Guatemala, Tolbert (1978) analyzed the spontaneous speech of thirteen children, eleven of them at one point in time and two longitudinally, for the acquisition of specific morphemes. In Colombia, Montes-Giraldó (1971, 1974) followed the general language development of his four children, discussing at length their phonetic development. In Puerto Rico, Gili-Gaya (1974b) analyzed speech elicited at one point in time from preschool children for the syntactic mechanisms used to express specific ideas; and Rodríguez-Fonseca (1977) studied verb usage in the spontaneous speech of five to six year old Puerto Rican children. There may be other studies conducted or being conducted in Spanish-speaking countries of which I am not aware, as I only had access to literature published or available in the United States.

Kernan and Blount (1966) studied the acquisition of various grammatical rules by Mexican children. Using nonsense words (Berko-type test) they tested for the rules on formation of plurals, diminutives, agent-agentive, place of business, agentive-occupation, possessives and the following third singular person tenses: future, past imperfect, past preterit and present perfect.

Children were grouped according to age, with five, six and seven year olds forming the youngest group, eight, nine and ten year olds the middle group and eleven and twelve the oldest group. In general they found that in most of the categories tested, there was a significant improvement from one

age group to the next. The exception was in the plural and possessives in which the performance of all the groups of children was nearly 100% correct.

The level of significant difference with respect to correct performance among the age groups was highest in the verbsinflections and, over time, there was an improvement in the conjugation of all tenses with the exception of the past imperfect. As a group, the children were correct in more than half the inflections. The youngest group's percentages of correct performance with verb tenses ranged from 30% in the future tense to 48% in the past imperfect, with the rank order of percent correct performance, from most to least, being past imperfect, present perfect, past preterit and future. The middle group's range was from 56.7% in the present perfect to 44.4% in the future. The oldest children's range was from 83.9% in the present perfect to 54.7% in the past imperfect. For all age groups, performance in verbs ending with "-ar" was better than with verbs ending with"-er" and "-ir".

Tolbert (1978) studied the development of the Spanish morphology of three children longitudinally and ten children cross-sectionally. These data were gathered in Guatemala for twelve of the children and in Mexico for one of them. The longitudinal data were from a Mexican boy, a Guatemalan girl and a Peruvian girl living in Guatemala. The cross-sectional data were from ten 30 month old children living in rural Guatemala.

Tolbert studied the acquisition of specific grammatical morphemes to compare with Brown's (1973) and De Villiers and De Villiers (1973) studies. The morphemes studied were: third present regular and irregular, past regular and irregular, copulas "ser" and "estar", preposition "en", auxiliary "estar", articles, possessives, plurals and progressives.

In general, Tolbert found that in Spanish there is an early acquisition of the verb forms and that there were more variation and lower correlations between the children studied longitudinally and cross-sectionally than in studies of English acquisition. The possible determinants of the orders of acquisition which she explored were grammatical complexity, semantic complexity, frequency in parental speech and Slobin's rules of universal language acquisition. She found that neither grammatical complexity nor frequency in

parental speech were useful for predicting the order of acquisition of grammatical morphemes. Semantic complexity and Slobin's rules, both to a limited extent, were better predictors of the orders of acquisition.

Of the morphemes studied, eight were verb forms. As mentioned before, she found a general early development of verb. The mean order of acquisition for the longitudinal sample was: third singular present regular, third singular present irregular, copula "estar", past irregular, progressives, past regular, copula "ser" and auxiliary "estar". When comparing the longitudinal and cross-sectional samples, their orders were significantly different. The areas of agreement were in the early acquisition of the third singular person, the copula "estar" and the irregular forms of the past and third person present and in the generally late acquisition of the copula "ser" and the auxiliary "estar". However, it should be noted that the correlations between the orders of acquisition of all the morphemes were not significant, and that the correlations between the orders of acquisition of the morphemes studied within the children in the longitudinal sample were significant in only two of the four possible pairs; thus the mean order of acquisition for the children is not too meaningful for making any comparison.

Montes-Giraldó (1971, 1974) followed the language development of his four children in Colombia. He analyzed specifically the development of their phonological systems. The data were recorded in detail on the day of observation, and the age of the child at the date of the entry was recorded. The older children were observed for five years, the younger for approximately three.

Montes-Giraldó (1974) gives examples of words in different lexical categories, such as nouns, pronouns, and verb tenses, as well as the ages at which they were used by the children. He does not give a chronological pattern of emergence, but it can be traced by following one of the children's entries, which I did for Joaquín (J)'s tenses. Since the author does not specify whether these are the first words in each category used by the child, this is to be considered an approximation. For Joaquín, the tenses in chronological order are: imperative(23)[1], present indicative (24), preterit (26), imperfect(27), periphrastic future(32), present progressive(34), present subjunctive(38) and past subjunctive (40).

1 Child's age in months

Gili-Gaya (1974) analyzed the speech of Puerto Rican preschool children, focusing on the way they used language to communicate ideas and the syntactic mechanisms used to express them. It was an exploration of what he considered to be basic functions of language. The data were gathered by the Council on Higher Education of Puerto Rico. Teachers elicited speech from children by showing them different pictures. Subjects were 50 boys and girls between the ages of four and seven years. Gili-Gaya analyzed their speech for enumeration, description, action and movement (verbs), complements of the verbs and the joining of sentences. He warned that there were individual differences, but he did not discuss them. Although the children were classified according to sex, age and other such variables, Gili-Gaya only discussed the overall results. He did not set a criterion for establishment or consolidation of specific forms.

As part of the overall analysis, he discussed the mood and tense of the verbs present in the children's speech. He found that the imperative mood was consolidated in the younger children and that, in addition to the formal grammatical mechanisms (that of the imperative form), they used other forms to express this intention. In the indicative mood, the most frequently used tense was the present, which was also used with imperative intentions and instead of the future tense. The preterit was firmly established and followed the present in frequency. The younger children used the imperfect correctly and with the normal adult frequency. The future was almost non-existent in all children. The present perfect (a compound tense) was often used by the children and in a frequency higher than the normal adult frequency in Puerto Rico. The present and past subjunctive tenses were used. The subjunctive mood has various functions, but he found that the children used only some of these functions.

Gili-Gaya also found that verbal phrases were used frequently. The "ir + infinitivo"/to go + infinitive/, or periphrastic future, was used correctly, as was the "estar + gerundio"/to be + progressive/ phrase. The "ir + gerundio"/to go to +progressive/ was also used, but infrequently.

Some of the children occasionally omitted the copular "ser" and "estar" /to be/, although there was a marked decrease with age in this error. By six or seven such copulas were hardly ever omitted.

The tenses Gili-Gaya reported for the children were present in the speech of the younger children; thus he was not able to trace a pattern of development for these tenses. If there was a difference with age in the frequency with which these tenses were used, he did not discuss it.

Rodríguez-Fonseca (1977) studied verb usage in the spontaneous speech of five and six year old Puerto Rican children. Subjects were ten boys and ten girls from a private school and ten boys and ten girls from a public school. The former were classified as upper sociocultural level and the latter as lower sociocultural level. The analysis performed was on the presence of mood and tenses of the verbs.

She found that, in general, the linguistic performance of the girls showed a wider use of moods and tenses and that the upper sociocultural level children used more tenses. The moods present were the indicative and the imperative. Within the indicative, the tenses were the present, preterit, perfect, indicative, imperfect, pluperfect and past indefinite. In terms of frequency of usage, the order from most to least used was present, indefinite, imperfect, perfect and pluperfect. The future was expressed through the verbal phrase periphrastic future.

Rodríguez-Fonseca does not report any usage of the subjunctive mood. This might be partly due to the fact that she only included simple sentences for the analysis, and this mood tends to occur in longer or more complex sentences.

STUDIES WITH SPANISH-SPEAKING CHILDREN IN THE UNITED STATES

These studies were conducted with Spanish-speaking Mexican American children of New Mexico and Texas and with a Puerto Rican child who was living in Massachusetts. In Texas, González (1970) studied the acquisition of syntactic patterns in a cross-section of children aged 2.0 to 5.0 to trace a developmental pattern. In New Mexico, Brisk (1972) studied the Spanish syntax of seven 5 year old rural and urban children. In Massachusetts, Belléndez (1978) studied the verb development of a 19 months old Puerto Rican boy.

González (1970) studied native Spanish-speaking children of middle class background in Texas. This is the most comprehensive study of the development of Spanish as a first language. The subjects were two boys and two girls from each of the following ages: 2.0, 2.6, 2.9, 3.0, 3.3, 3.6, 4.0, 4.6, 5.0, 6.0, 8.0, and 10.0. The children were screened to confirm that they spoke Spanish. Each child's speech was taped for approximately two hours, with a combination of free elicitation, directed conversation and Berko-type testing. The speech of three of the four subjects in each of the age groups from 2.0 to 5.0 was analyzed. The study focused on the acquisition of syntactic patterns, but he also analyzed other grammatical features, such as verb tense, interrogatives, adverbial modification and sentence complexity.

González examined in detail the development of the verb system in terms of tense. A verb tense was considered as established for a given age group when all the subjects in the group used it at least once, or if two of the subjects used it at least three times each. By 2.0 only the present indicative was established; at 2.6 the preterit indicative, the present progressive and the periphrastic future were added. By 5.0 the present subjunctive, imperfect, past progressive and the "andar"/to walk/ progressive were established. The tenses not established were the conditional, the future progressive, the "ir + gerundio"/to go + progressive/, the present and past perfect, past subjunctive, inflected future and past perfect subjunctive. González mentioned and discussed problems that caused a tense to be considered as established in a given age group only to be considered as not established in the next age group and warned that the data should be taken as "showing a possible trend of development and nothing more". (p. 150)

Brisk (1972) studied the syntax of native New Mexico preschool Spanish-speaking children. She analyzed the speech of seven (two urban, five rural) five year olds, using the free elicitation technique. Their speech was tape-recorded twice a week for two consecutive weeks. Brisk was partly interested in the distinctiveness of the Spanish spoken in northern New Mexico, which has not had recent large immigrations from Mexico.

Brisk analyzed the grammatical structures present, as well as "deviant"

forms of the syntax. The deviant forms were further classified as those due to English interference, to dialectical features of New Mexico Spanish, and to developmental characteristics. She concluded that: "...these children have not fully acquired the syntax of Spanish"(p.114) and discussed specific structures to illustrate the point. Comparing the speech of these children with that of the children studied by González, she stated:

> Overall, the syntax of the G./González/ children seems more developed, specially with respect to the tense-aspect system and complex sentence formation.
> (p. 119)

In the development of the verb system, Brisk found differences between the urban and rural group, with rural children using verbs both more frequently and in a larger number. In terms of tense and aspect, all children used the indicative mood in the present, preterit and imperfect tenses, the imperative and the periphrastic future (instead of the inflected future), and the present progressive. The present subjunctive was used only by three of the children. The rest of the tenses were not used at all.

Beléndez (1978) followed for three months the language development of a Puerto Rican boy aged 19 months at the beginning of the study. He was living in Boston at the time. She taped his spontaneous speech monthly and analyzed for the development of the verb system in terms of mood, tense and person, calculating for each form the percentage of times it was used when required.

In general, she found that there was an increase in the number of tense/person forms and number of verbs the child used, and that there was a difference between the sets of spontaneous and repeated verbs, and that various forms were used instead of the "appropriate" ones.

The first tenses were the imperative, present indicative and preterit indicative. The periphrastic future appeared later on, as well as an "inappropriate" use of a subjunctive present form. In each tense, the first form to be used "appropriately" in most instances was the third singular, which

was generalized to other persons the child used only scantily. One such generalization was the use of the third instead of the first singular person, which was in part due to a switch in the way he referred to himself - from "el nene"/the boy/ to "yo"/I/ -, which was not followed by a switch in the verb form used.

When the forms were further classified into spontaneous and repetitions, it was found that the repetitions set was less accurate (had a lower percentage of "appropriately" inflected forms) and more complex (more forms were used and/or required) than was the spontaneous set. Repetitions could thus be considered as both a positive influence on the child's verb system development (in that they introduced verb forms, some of which the spontaneous system did not require at the time) and an apparently "negative" influence because he used "inappropriately" inflected forms more often. Thus, repetitions were seen as a "testing ground" in which new forms, both "appropriately" and "inappropriately" inflected, were introduced into the child's system.

III. THE BOSTON STUDY (from Belendez, 1980)

We studied the language development of 4 Puerto Rican boys living in Boston: Rafael, Felix, Carlos and Amed. They ranged in age from 17 to 37 months during the period of study, which extended for 3 to 20 months:

Rafael:	19 - 22 months old
Carlos:	24 - 31 months old
Felix:	26 - 29 months old
Amed:	17 - 37 months old

Felix differed from the other boys in various respects. Rafael, Carlos and Amed were born in Puerto Rico and they were living in Boston as their parents had come to continue graduate studies. Felix was the only child born in Boston and whose parents lived "permanently" in Boston. The educational level of Felix's parents was lower than that of the other children's; his parents had not completed high school. Felix's parents had limited knowledge of English; the others' were English-Spanish bilinguals. Felix's parents lived in a Puerto Rican community of Boston; the others' lived in university housing in Cambridge.

Rafael was an only child. Felix, Carlos and Amed had older siblings who attended elementary public school: Felix had a sister, Amed had a brother and a sister and Carlos had a brother. For all of them, the predominant language spoken in the home was Spanish. For Felix, Carlos and Amed, their older siblings had either learned English at school or were in the process of doing so during the period in which the children were being taped. Thus, even though Felix, Carlos and Amed's exposure to English was primarily through television, they were also exposed through their siblings, as they were sometimes "taught" how to say words or phrases in English by their siblings.

Rafael attended an English-speaking day care center during the day. Felix and Amed (during the first period) stayed home with their parents, grandmother and siblings during the day. Carlos and Amed (during the second period) were with a play group of Spanish-speaking children during the mornings.

The data used were transcriptions of spontaneous conversations between the researcher, Pilar Belendez, and each child. These conversations were recorded at 2-4 week intervals. They were mostly unstructured and focused simply on the child's interests at the time.

As promised in the proposal, we analysed (1) the order of acquisition of Spanish verb forms by each child; and (2) the influence on that acquisition of the child's repetitions of verbs spoken previously in the conversations by the adult.

The Acquisition of Verb Forms

All child utterances with personal verb forms (inflected for person, tense, aspect and mood) were isolated and analyzed. The analysis performed on the verbs was based on the percentage of times an inflection was used when required (accuracy index). The requirement for an inflection was determined by taking into consideration linguistic and non-linguistic contexts. For example, when Rafael said yo lo llama, the required form was the first singular present since the explicit subject was yo (I), but the third singular was used "inappropriately" instead. All personal verb forms were classified into "appropriately" and "inappropriately" inflected, and the accuracy index for each form, in each tape, was calculated. Since whenever a form was not used as required, another form was used "inappropriately", these "errors" were further analyzed. Following Cazden (1968), a verb form was considered as acquired when it was used in 90% of the contexts in which it is clearly required.

Chart IV (from Belendez, 1980 p. 166A), reproduced on the next page, shows the order of acquisition of verb forms in all 4 children. The order is similar for the 4 children. Average orders of acquisition were calculated by averaging the ranks of the forms acquired for all the children and ordering them accordingly. This yielded 3 different rank orders: one for all the children (considering the forms present in Rafael); one for Felix, Carlos and Amed; and one for Carlos and Amed. Chart V (Belendez, 1980, p. 169A) gives these average rank orders.

As expected by the similarities observed in their verb systems, the childrens' "errors" are similar as well. For all the children, the form used in more "inappropriate" contexts was the third singular present. It was used instead of the first singular and third plural

CHART IV ORDER OF ACQUISITION OF VERB FORMS IN ALL CHILDREN

Age	AMED	RAFAEL	FELIX	CARLOS
19		Third singular present (I) Third singular preterit (I)		
20				
21	Third singular present (VI)			
22-23				Third singular present (I)
24				
25				Third singular preterit (IV)
26			Third singular present (I) Third singular preterit (I) First plural present (II)	First plural periphrastic future (IV)
27			Imperative (III)	Third singular periphrastic future (V) Third singular subjunctive present (V) First plural present (VI) Third singular imperfect indicative (VI) First singular preterit (V) Second singular preterit (VII)
28				
29	First plural periphrastic future (XVIII)			
30	Third singular periphrastic future (XIX) Third singular preterit (XIX)			
31	Third singular imperfect indicative (XXI)			
32				
33	First singular imperfect indicative (XXII) First plural present (XXIII) Second singular preterit (XXIII)			

CHART V - AVERAGE RANK ORDER OF ACQUISITION OF FORMS IN ALL CHILDREN

RAFAEL, FELIX, CARLOS, AMED (A)	FELIX, CARLOS, AMED (B)	CARLOS, AMED (C)
1. Third singular present	1. Third singular present	1. Third singular present
2. Third singular preterit	2. Third singular preterit	2. Third singular preterit
	3. First plural present	3. Third singular periphrastic future
		4. First singular periphrastic future
		5. Third singular imperfect indicative
		6. First plural present
		7. Second singular preterit

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present forms and of the imperative. For Carlos and Amed, whose systems were the most complex, it was also used instead of other tenses and persons. The fact that the "inappropriate" use of the third singular present occurs in every child taped, and that the forms instead of which it was used are similar, strongly indicates that this is the "basic" form of the child's system and that other forms stem from it. As this is the least marked form in the present tense, this is to be expected. As the third singular person was also used "inappropriately" in other tenses in which it was not the least marked form, the explanation for the pervasiveness of the use of the third singular present form is probably due to an interaction of linguistic complexity, frequency of usage and other reasons, one of which is discussed below.

The most pervasive type of "error" was the "inappropriate" use of the third singular person instead of the first singular person. This "error" is related to the linguistic complexity of the forms (evident in the present tense) and also to the change in the way the child referred to himself. There is evidence in the tapes that the children change from referring to themselves by objective "el nene"/the boy/, "el bebe"/the baby/, the child's name - to the subjective "yo"/I/, and that this change was not immediately followed by the change from the third singular to the first singular verb forms. Thus, in all the tenses and in many specific verbs, we get examples of the construction - I + third singular forms - . As it occurs in all tenses, it seems to indicate that it is related to the child's increasing awareness of himself as a subject. It may also be related to the way in which the parents talk to small children, but we did not have data on parent speech in this study.

The Influence of Repetitions

Following Bloom et al, (1974) a child's use of a verb form was considered a repetition if some form of that verb was available as a model within the preceding 5 utterances. Once a verb form was classified as a repetition, it was categorized into: (A) the adult used a form "appropriate" for the utterance the child subsequently produced

and the child repeated it; (B) the child repeated, "inappropriately" for his own utterance, a form used by the adult; (C) the adult used a form "appropriate" for the utterance the child subsequently produced but the child did not repeat it; (D) the child used a form different from the adult's but "appropriate" for her/his own utterance; and (E) the child used a form different from the adult's "inappropriate" for her/his own utterance, but the adult's was also "inappropriate". Chart I (from Belendez, 1980, p.36A) on the next page illustrates these possibilities.

An example of each type of repetition follows: (from Belendez, 1980, pp. 36-42)

R:	Ese el pañal	/That the diaper/
mR:	Ese <u>es</u> el pañal	/That is the diaper/
* (rA) R:	Ese <u>es</u> el pañal	/That is the diaper/

** (I: 14-15)

In this example Rafael repeated the verb form used by the adult. As he kept the subject, the model was "appropriate" for his subsequent utterance, and his imitating it produced an "appropriately" inflected form.

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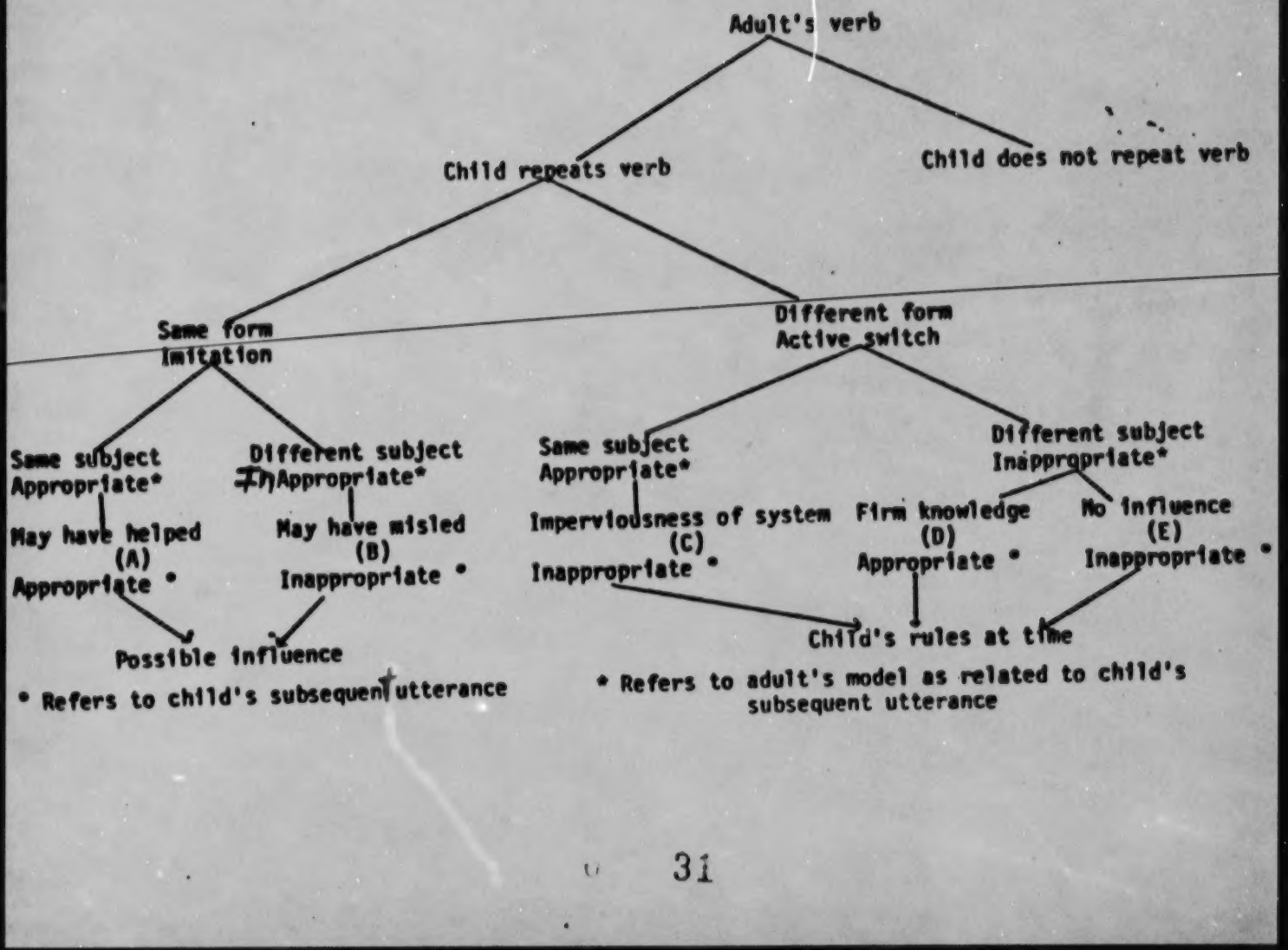
* Repetitions will be identified throughout the text by the small letter (r) and the capital letter of the type of repetition.

** Excerpts of the transcriptions included in the text are identified by tape and utterance number. The initials used to identify the speakers are: For RAFAEL - R-Rafael, mR-his mother, fR-his father; for FELIX - F-Felix, mF-his mother, fF-his father, sF-his sister; for Carlos - C-Carlos, mC-his mother, fC-his father, bC-his brother; for AMED - A-Amed, mA-his mother, sA-his sister; for LINA - L-Lina, mL-her mother; for ANA - A-Ana; for GINNIE - G-Ginnie, mG-Ginnie's mother A-Ana; for ADRIAN - Ad-Adrian, mAd-his mother, A-Ana; for JAVIER - J-Javier, mJ-his mother, for SARA - S-Sara; for PILAR BELENDEZ - P-Pilar.

CHART I - MODEL OF REPETITIONS



mF:	La apagó	/He turned it off/
(rB)*F:	Apagó	/(He) turned it off/

(IV: 60)

In this example, Felix repeated the verb form used by his mother. The context required that he change the subject, from the third person singular to the implicit first person singular. Thus, the model was "inappropriate" for his subsequent utterance. His imitating it produced an "inappropriately" inflected form.

P:	Y, ¿Cuál hizo papá?	/And, which did father make?/
C:	Allí	/There/
(rC)*C:	Hace papá	/Makes father/

(VII: 515)

In this example, Carlos switched from the form I used to a different one. He did not change the subject, nor was there any contextual evidence of a necessary change in tense, making the adult's model an "appropriate" one for his subsequent utterance. His switch to a form in a different tense made it an "inappropriately" inflected one. Had he repeated the same form, it would have been "appropriate".

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* The asterisk (*) indicates an utterance with an "inappropriately" inflected form.

P: ¿Quién sabe lo que le está diciendo Ms. Carla a Rafael Angel? /Who knows what is Ms. Carla saying to Rafael Angel?/

... / ... /

(rD) A: Yo no sé /I don't know/

(XXVII: 125)

In this example, Amed switched to a verb form different from the one I used. He changed the subject from the third person singular to the first person singular to refer to himself. Thus, the repetition of the same form used by the adult would have been "inappropriate" for his subsequent utterance. As he switched to the first singular form, the verb he used was "appropriately" inflected.

P: ¿Lo leo? /(I) read it?/

(rE)*R: Sí, lea /Yes, read/

(III: 133)

In this example, Rafael switched to a form different from the one I used. As the context required an imperative, the model was "inappropriate". He switched, instead, to a third singular subjunctive present form, which was also "inappropriately" used as an imperative.

In the cases in which the switch is not made (A & B), we may say that the child is "imitating" the form used previously by the adult. This imitation might either have a "positive" or "negative" influence in the accuracy*** of the child's developing system.

*** Accuracy is defined as the percentage of time the form is used when contextually required.

When the child repeats the form used by the adult without changing the subject of tense, s/he uses an appropriately inflected form (A). The interpretation we make of this set of repetitions is that in these instances, the repetition of the form used previously by the adult may have helped the development of the child's system, thus having a "positive" influence on her/his developing verb system. Within these repetitions, the possibilities are: (1) that it provides the child with a form s/he did not previously have in her/his spontaneous system; (2) that it reinforces the "appropriate" use of a form s/he had used previously, but that had not yet been acquired in her/his spontaneous system; and (3) that it is simply an artifact of the analysis, as these are forms that are already present in the child's system. When s/he repeats forms that were not part of her/his spontaneous set at the time we may say that the "positive" influence is clearly evident, as it has introduced a new form into her/his verb system. When s/he repeats forms whose accuracy in the set of repetition is higher than that of her/his spontaneous forms for that particular type of form, we may say that it is highly probable that this repetition had a "positive" influence. If, however, the accuracy of both sets is similar, we can say that these repetitions are a reflection of her/his spontaneous set at the time, and thus does not have any influence. This might also apply with specific verbs, but given the impossibility of gathering a corpus that includes all the lexicon that the child has at any given time, it is more difficult to trace than for the type forms.

When the child repeats the same form used by the adult, but changes the subject or tense in the utterance, s/he uses an "inappropriately" inflected form (B). The interpretation we make of this subset of repetitions is that by adopting this form, the child may have been misled into repeating an "inappropriately" inflected form; thus, having a negative influence on her/his verb system. In this case, too, the child might or might not have the same "inappropriate" usage as in her/his spontaneous set. When the "errors" occur only in the set of repetitions because the child would not normally make them spontaneously, then her/his rules at the time could not account

for them. This can only be explained as a confusion caused by the model form, or the child "adopting" the form to continue the communication. Under these circumstances we can say that repetitions of this type had a "negative" or misleading influence on her/his developing verb system. When the "errors" are shared in both her/his spontaneous and repetitions sets, we can say that this repetition is a reflection of her/his spontaneous system. One may, however, also observe an increase in the relative frequency of the "errors" in the repetitions set. This increase may have been fostered by the available "inappropriate" model; thus, even if it is a reflection of the spontaneous set, it has a "negative" influence on the accuracy of the particular form.

We can infer what the child's rules are at the instance in which the child makes a switch: i.e., uses a form different from the adult's (C,D & E). The child can make the necessary switch, leading to an "appropriately" inflected form (D), or make the switch, though not the necessary one and leading to "inappropriately" inflected forms (C & E). In the latter case, the adult's model could have been either an "appropriate" model (C) or an "inappropriate" model (E) for the child's subsequent utterance. These instances all illustrate the active part played by the child in her/his language development, as, given a verb form used by the adult, s/he uses another form, which is part of her/his repertoire, to verbally communicate ideas. Such instances can be interpreted as evidence of firm knowledge (when the switch is the necessary one-D), of the imperviousness of the child's system (when the adult's model was indeed "appropriate"-C), or as a reflection of her/his spontaneous system (when the switch is to an "inappropriate" form, but the adult's model was also "inappropriate"-E).

When the child makes the "appropriate" switch (D) we can say that s/he has firm knowledge of the use of the form because the model was "inappropriate" for her/his subsequent utterance. Despite the possibility of being misled by the "inappropriate" form, -as happened in B- the child is able to make the switch because that

form is part of her/his system and s/he already "knows" the "appropriate" rule. We would expect that this switch will be to forms that are present in her/his spontaneous set at the time. That is, we would not expect the child to be able to switch to a form that had no prior "appropriate" use in her/his spontaneous set.

When the child switches to an "inappropriate" form, even though the adult's model was "appropriately" inflected for her/his subsequent utterance (C), we may say that the child's system is impervious to that potentially "positive" influence, as s/he already has a "rule" to apply in those instances, which does not coincide with the adult's.

In the final case, the child switches to an "inappropriate" form, but the adult's model was "inappropriate" for her/his subsequent utterance. That is, in any case the model would not have been of any help to her/him, yet s/he does switch. The "errors" thus produced are active reflections of the child's rules at the time. Thus, it is to be expected that most of these "errors" will also be found in her/his spontaneous set, and that the switch will be from a less familiar to a more familiar form, regardless of its "appropriateness".

Two assumptions made about the nature of the repetitions, as defined for this dissertation, are that: (1) it is the child who determines what s/he is going to repeat, although her/his level of linguistic development may affect what s/he is able to repeat, and factors such as her/his interest in the topic affect how much is going to be repeated; and (2) the adult's model is not "appropriate" or "inappropriate" by itself rather its appropriateness depends on the subject the child uses in her/his subsequent utterance, which is determined by the child her/himself.

The spontaneous verb forms and repetitions can be compared on two criteria: accuracy - defined as the percentage of time the

form is used when contextually required; and complexity - defined as the number of different verb forms.

The accuracy index of the set of repetitions was then compared with the spontaneous verb forms (all those not considered repetitions) in each child's speech. In all 4 children, the spontaneous verb set was more accurate.

Rafael:	in 3 out of 4 tapes	(p. 05)
Felix:	in 5 out of 6 tapes	(p. 01)
Carlos:	in 7 out of 11 tapes	(p. 01)
Amed:	in 20 out of 29 tapes	
	(plus 7 in which the two were the same)	

A factor that needs to be considered before making any conclusion about the influence of repetitions on the complexity of the verb system is the relative size of the spontaneous and repetitions sets. In every instance the set of repetitions was smaller in terms of token verbs than the set of spontaneous verbs for each child. Therefore, given the same conditions, the chance for the forms to appear was greater for the set of spontaneous verbs than it was for the set of repetitions. In fact, in almost every tape taken individually, the complexity of the spontaneous set was greaterthan that of repetitions. In spite of this, for Rafael and Carlos, the set of repetitions included more forms overall and the difference between the complexity of the spontaneous sets and the repetitions sets in Felix and Amed were not proportional to their token size.

We had predicted that the influence of repetitions would not be the same over time with initial appropriate imitation of forms (A) followed by an increase in the "inappropriate" repetitions (B, C & E)and finally by an increase in "appropriate" repetitions, and switches (A & D) as the system became more complex and accurate. This entire pattern of development was evident only for Amed. The other children were taped initially after some "inappropriate" repetitions were evident in their system. For Carlos, we were able

to observe the second and third period; that is, the initial increase in "inappropriate" repetitions followed by an increase in "appropriate" ones. Felix's and Rafael's systems still had an increasing trend in "inappropriate" repetitions when their last tape was made.

Because of the complexity of verb morphology in Spanish - in contrast to English - it is a particularly important focus for language acquisition research. We have addressed here both language - specific questions about the order of acquisition of verb inflections, and questions about the role of adult models and children's repetitions in the acquisition process. The two are not unrelated, because it is only with features like verbs inflected for person that the full set of repetition relationships is possible; that is, it is only with such features that a child who is continuing the same conversational topic as the adult still has to construct independently the right verb ending.

IV. THE PUERTO RICO STUDY

PERSONNEL:

Two research assistants worked with Belendez in Puerto Rico: Ana María García-Blanco and Sara Virginia Melendez-Rivera.

Ana María García-Blanco was a full-time research assistant. She holds a B.A. from Harvard University (1978) and an Ed.M. from Harvard Graduate School of Education (1979). She has been working in the community center of Barrio Juan Domingo, a low-income community, for the last ten years on a volunteer basis. For the last four years, she has been a teacher in the summer school for the community children, concentrating in the language skills area. During the academic year, she works with the children in their schoolwork and activities.

Sara Virginia Meléndez-Rivera was hired as the part-time research assistant. She is currently an advanced doctoral student in the Learning Environments area of the Harvard Graduate School of Education. She holds a B.A. (1971) in Humanities and an M.A. (1976) in Secondary Education from the University of Puerto Rico. She worked as a teacher in Puerto Rico's public school system for three years. While working as a teacher, she participated on a seminar on curriculum implementation strategies, and served as a volunteer in a literacy program in the Dominican Republic.

IDENTIFICATION OF THE CHILDREN

The original criteria for choosing the children to be taped was that they be between 1-1/2 and 2-1/2 years old and Puerto Rican. Additional criteria to guide the selection was that they be talkative, that the home language be Spanish, and that they have little or no exposure to English at home. As the project was moved to Puerto Rico, the last two criteria were not relevant.

The children were identified through personal contacts of the researchers with the children's parents. LINA and GINNIE were both daughters of women Ana had met in Barrio Juan Domingo in her involvement with this community. She has had extensive contacts and interactions for many years with both of them, so she was no stranger in their homes. ADRIAN is the oldest son of a high school friend of Ana, with whom she has remained close through the years. JAVIER is Sara's nephew, and Sara was living with his family, thus being very close to him.

Thus, we taped four children--two girls and two boys. Their ages at the beginning of the study ranged from 1,06 (Lina) to 2,05 (Javier). The age range for each child during the study is seen in Chart I . Ana was responsible for taping Lina, Ginnie and Adrián, Sara was responsible for taping Javier.

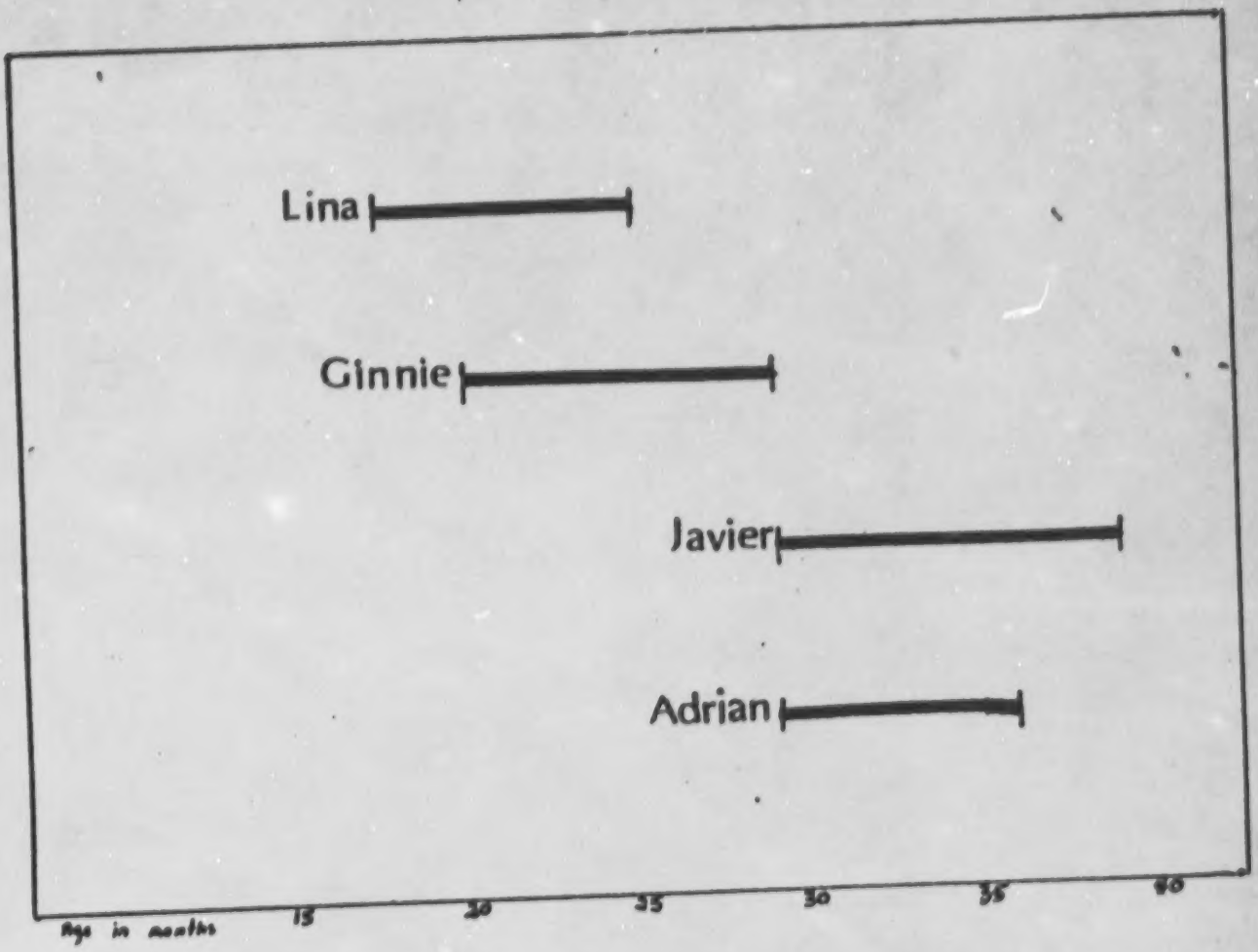
--CHART I --

LINA is an only child. She was born on July 12, 1978. She lives with her parents in Barrio Juan Domingo, very near her grandparents and other relative's houses. She spends most of her time with her mother. Usually, they are alone by themselves in the mornings. In the afternoons, they usually go to her grandparent's home, where she plays with her youngest cousins and other relatives. Her father is presently working outside the home.

Lina is a calm and at times very quiet child. She likes to play by herself and usually does not demand attention from other children and adults. She is very attached to her mother, who is also a very calm, quiet and warm

CHART I

AGES OF THE CHILDREN



person.

Lina did not speak much, but communicated effectively. She expressed much through gestures and through the intonation she gave to words. Her vocabulary was limited. Usually she only used one word utterances, and a few two or three word utterances. This had changed by the last tapes.

Lina was taped mostly at her home, with her mother present in the house but not a participant in most of the session. The taping was done while Lina and Ana played with the child's toys, books and dolls. Lina likes to play with her dolls as if they were babies she is taking of. The taping sessions usually ended with her taking a walk around the house, eating something or going out to the yard.

GINNIE is the youngest of two children. She was born on April 28, 1978. Her older brother, Edwin, is 14 years old, and attends public school. She lives with her parents, brother and a half-sister, next door to her grandmother, aunts and cousins in Barrio Juan Domingo. Hers is a closely-knit extended family, who spend most of the time together. Ginnie spends most of the time with her mother and her relatives. Ginnie's mother was unemployed at the moment and spent most of her time with Ginnie at home. Her father had gone to the United States in April, 1980 for a 6-months job, as he had been unemployed in Puerto Rico for a long time. He subsequently returned home.

Ginnie is a very warm child, very communicative and alert. She is used to being around people of all ages and participating in the activities going on around her. Through the months of taping, Ginnie developed some vocabulary and new structures. From one-word utterances, one-sound expressions, at the end of the study she talked more clearly, with longer utterances and new words. Ginnie is very communicative; she says much with her gestures, expressions of her eyes and tender ways.

She was taped mostly at her home. The taping sessions were usually done in Ginnie's room while she played with her toys, dolls, "dogs", blocks, picture books and others. The main interaction was usually with Ana, while they played and conversed. Her mother, brother and aunts came in and out of the room and participated in part of the

sessions.

ADRIAN is the oldest of two children. He was born on August, 1977. His younger sister, Aurora, was one year old in July, 1980. Adrián spent most of his time with his mother and sister. His father and mother began college studies, but had not graduated. Adrián's father returned to college while we were conducting the study to finish his undergraduate studies, and was currently working in a university library. His mother is a musician, and occasionally works on musical performances. However, she spent most of her time taking care of her children.

Adrian lives in a rural area in Trujillo Alto. He enjoys being outside the house and playing with plants and animals. He is very expressive, communicative and lively. In the initial tapings, he talked a lot, using mostly two or three word utterances. His vocabulary was growing rapidly, and he was speaking more clearly; his utterances became more coherent and grammatically complete. His parents were very aware and concerned with Adrián's growth and development, and made a conscious effort to help him in his linguistic development. They corrected him when he said something grammatically or phonetically "incorrect".

He was usually being taped on Fridays, when he went to Guaynabo to visit his grandmother. That day, Elaine, his mother, took her singing lessons. Elaine and Adrián met Ana in the morning to go to her class. While she took the class, Adrián and Ana went to a nearby beach, which Adrián enjoyed very much. Some taping was done then. After Elaine's class, all three went to his grandmother's house. At this point, his mother and grandmother participated in the conversations and games taped.

JAVIER is the second of two children. He was born on June 3, 1977. His older brother was six years old, his mother was expecting another child. When Javier was born, his mother quit her job in order to take care of him. She was anxious about seeing and participating in the

development and rearing of her baby. Javier was usually home with his mother in the mornings and with his mother and brother in the afternoons. Javier's father is the director of a non-profit consumer organization. His mother is a theater teacher.

The relationship between the two brothers has evolved from one of daily fights to a more close one, where Antonio (the eldest) assumed the role of his brother's protector. They played together and with other kids. Javier is a charming kid. He is very sociable with other children and adults as well. An important event in his life at the time of the study was his mother's pregnancy. He was in the transitional period of accepting the future presence of another baby in the house, and began to act as a baby once again. Both his mother and father were aware of and dealt with this situation, explaining to him the meaning of the new baby for the family. As a result, his father spent more time with him than before.

Since the first taping, Javier's vocabulary developed at a rapid pace. New words and complex structures seemed to appear each day, but by the last tape he had not fully mastered the grammatical rules and structures of Spanish. However, he used other mechanisms, such as repetitions, gestures and actions, to be understood by others.

Javier was taped at his home, mostly in everyday interactions with his aunt. Sometimes, the taping sessions included other members of the family.

DATA GATHERING

The study was based on spontaneous conversations with the children. As mentioned before, four children were taped, Javier, Lina, Ginnie and Adrián. The taping sessions lasted for about an hour, and were done informally in settings familiar to each child. All of them were usually taped at their own homes, or at relatives' homes where they usually spend some time.

Ginnie's tapes were at her home. She spent most of her time there with her family, who participated in all the tapes. The conversations with Ginnie took place while playing with her toys in her room, and at times when she was taking a bath or eating. The main activity was the games played with her dolls. She took care of them and talked to them. She was once taped on the beach. Ana went with her and her family and taped their conversations on the way there, and at the beach itself.

Adrián was almost always taped on days he spent at his grandmother's house in Guaynabo. The taping sessions usually took the following form: meeting at his grandmother's house, some talking and activity there, a ride to Isla Verde where his mother took a music lesson, a walk on the beach, picking up his mother and going back to his grandmother's house, where the tapings were finished. There is one tape done at Ana's home, and one done at his home with his parents alone. The interaction took place, most of the time, around games Ana and Adrián made up, like cooking on the beach, taking care of imaginary children, building a house, building a road and others. Adrian enjoyed talking about things that have happened to him.

Lina was always taped at home with Ana and her mother, and once or twice with her father and other members of her family, such as her uncle, her cousins and aunts. Lina and Ana conversed while playing with Lina's favorite toys, her doll, books and photo albums. In some occasions they looked through story books Lina specially likes.

Javier was always taped at his home by his aunt, who is a member of his household. She taped him twice in November, months before she even expected to be working on the project, to keep track of her nephew's speech development. She used to teach him songs, sing along with him, and then tape the child singing by himself.

The taping sessions were done any time he was available and willing. That is, when he accepted playing different games or when he was playing or just conversing with other persons. Most of the time Javier

was aware that he was being taped, and was a good collaborator. He loved to play with the tape recorder and to listen to what had been taped. In the taping sessions, he just talked about anything. At times, he asked to be taped. As his aunt spent a lot of time with him and was aware of new developments in his speech, she tried to induce specific topics or new words or grammatical structures.

ANALYSIS

The analysis performed on the verb system is similar to that used by Belendez (1980) in her previous research. The utterances with an explicit verb form (including those forms inflected for person, tense and mood and non-finite forms) were extracted from the transcriptions and analyzed. Utterances that are partially unintelligible, that include English words, or that come from songs or stories, were not included in the final analysis.

The verb forms in these utterances were further classified as "appropriately" and "inappropriately" inflected (inflection required and not supplied) following Cazden's criteria for determining when an inflection is required. For each person/tense form, we calculated the percentage of times it was used when required. This percentage is an index of the productivity of the inflection for the child's system. The rationale behind this analysis is that: "Each of these (obligatory) contexts in the child's speech can be considered a learning trial" (Cazden, 1968, p. 438), and that it allows us to observe its development, that is, how it changes over time. Another positive aspect of this type of analysis is that since it is based only in the instances in which the inflection is required, it partials out the effect of frequency. That is, through this analysis we can determine the productivity of an infrequently required form as well as that of a frequently required one. The inflections will be considered as acquired when they are supplied in at least 90% of the contexts in which they are clearly required in three consecutive tapes.

The instances in which a form is required is determined from: (1) linguistic context-the utterance itself; (2) non-linguistics context-action performed simultaneously; (3) linguistic prior context-what was said before the child's utterance; (4) linguistic subsequent

context-how the adult interpreted the child's utterance or how the child further elaborated the idea.

The forms were further classified as spontaneous or repetitions. The criteria to determine if a verb form is a repetition are: (1) only the verb form is considered; (2) an adult's model is available within the preceding five (5) utterances; and (3) the child used the same or a different form of a verb used by the adult. The rationale for this differentiation is that Belendez found in the subject she studied that the set of spontaneous verbs was both more stable and less complex than that of the repetitions, and that combining these sets gave an inaccurate picture of the child's verb system.

The "errors" (forms "inappropriately" inflected) were further analyzed. This analysis gave additional insight into the strategies that the child is using when learning a language.

V ANALYSIS OF LINA'S VERB SYSTEM

Lina's speech was taped for 8 months. Tha data analyzed included 12 tapes made at approximately 2 to 3 weeks intervals. She was 16 months old when we first taped her speech; by the last tape she was 25 months old.

GENERAL INFORMATION

Some general information about the utterances and verbs included in the analysis is summarized in Table 1 . Table 2 illustrates the pattern of development of the verbs forms Lina used; taking into consideration forms were present in her spontaneous set and/or repetition sets.

—Table 1 —

—Table 2 —

Throughout the tapings her system became increasingly complex. The number of type verb forms increased from 5 in tape I to a total of 8 by the last tape. In addition, by the last tape 1 form had been used only on "inappropriate" context and one form had been required but not used.

The three moods were present: imperative, indicative and subjunctive. Within the indicative the present, preterit and periphrastic future were present. In the imperative only the singular form was used. Within the subjunctive mood, the present tense was used "inappropriately".

In the present indicative tense the first and third singular forms appeared and were acquired in I. The only plural form she used was the first person, which appeared initially in tape IV.

In the preterit indicative tense the third singular appeared and was acquired in I. The first singular appeared in I but was not acquired by the last tape. The second singular appeared only once, in VI. The third plural was required but not used in II.

TABLE 1

GENERAL INFORMATION ON VERBS ANALYZED IN LINA

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Number of utterances analyzed	116	112	81	185	171	138	211	112	120	138	75	417
Number of personal forms analyzed	54	23	41	110	111	84	85	39	45	38	33	137
"Appropriate"	54	21	41	110	111	84	84	37	45	36	32	132
Accuracy percentage	100	91.3	100	100	98.2	100	98.8	94.9	100	94.7	97.0	96.4
Regularizations	1	6	5	0	0	3	0	1	1	0	0	0
Type forms used	5	3	4	4	6	7	5	4	4	5	5	4
Type forms required, not used	0	1	0	0	1	0	0	0	0	0	0	0
Type forms used, not required	0	0	0	0	0	0	0	1	0	1	0	1

TABLE 2

DEVELOPMENT OF LINA'S VERB SYSTEM

Form	TAPE I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Imperative	(S)R	SR	SR	SR	SR	SR	SR	SR	S	SR	SR	SR
Present indicative												
First singular	(SR)	S	-	S	SR	S	SR	S	-	S	R	SR
Third singular	(R)	R	(S)R	-	SR	SR	SR	SR	S	-	SR	SR
First plural	-	-	-	(R)	R	SR	-	-	-	R	R	-
Preterit indicative												
First singular	S	-	S	-	n(SR)	S	S	-	S	R	-	R
Second singular	-	-	-	-	-	S	-	-	-	-	-	-
Third singular	(S)	S(R)	SR	S	SR	SR	S	SR	S	S	SR	SR
Third plural	-	nR	-	-	-	-	-	-	-	-	-	-
Periphrastic future												
First singular	-	-	-	-	S	-	-	-	-	-	-	-
Present subjunctive												
Third singular	-	-	-	-	-	-	-	iS	-	iR	-	i(SR)

In the periphrastic future tense the first singular was used, only once, in V.

The only present subjunctive form used was the third singular, but only in "inappropiate" contexts.

Chart II shows the order of appearance and acquisition of the verb forms in her system.

—Chart II —

Different from other children the order of acquisition coincides with the order of appearance, except for the first singular preterit. Only three of the eight forms that appeared had not been acquired, with 2 of the forms not being acquired because there were not enough instances of their use.

For Lina, in the tenses she used initially the third and first singular appeared simultaneously (present and preterit indicative), or the first singular person was the only form to appear (periphrastic future). In terms of acquisition, we can observe the pattern consistent with the other children, namely the earlier acquisition of the third singular person forms (preterit), or the simultaneous acquisition of first and third singular person forms (present).

ANALYSIS OF THE "ERRORS"

Chart III lists the "errors" made by Lina.

—Chart III —

As we can observe, Lina's "errors" were very few. The form most frequently used in "inappropiate" contexts was the third singular preterit which was used instead of the first singular and third plural preterit. The other "errors" were the third singular subjunctive present and the first singular present, both used instead of the imperative.

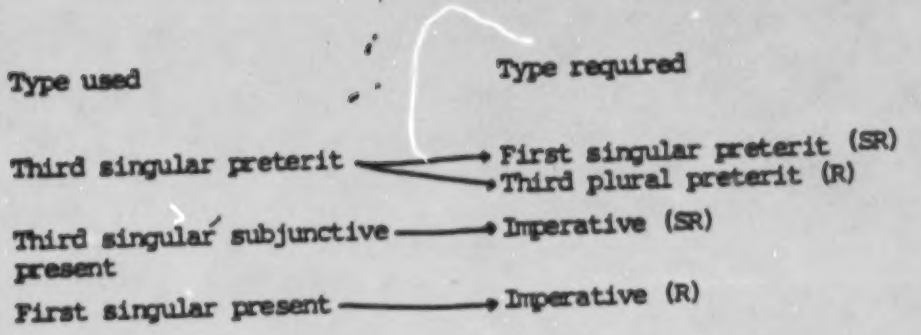
CHART II

ORDER OF APPEARANCE AND ACQUISITION OF FORMS BY LINA

Age (months)	Tape	Order of appearance	Order of acquisition
18	I	Imperative First singular present Third singular present Third singular preterit First singular preterit	Imperative First singular present Third singular present Third singular preterit
20	IV	First plural present	First plural present
21	V	First singular periphrastic future	
22	VII	Second singular preterit	

CHART III

TYPE OF "ERRORS" BY LINA



COMPARISON OF SPONTANEOUS AND REPETITIONS SETS

Table 3 compares the accuracy of the total verbs system with that of the verbs in the spontaneous and repetitions sets. These differences are illustrated in Figure 1.

—Table 3 —

—Figure 1 —

We can observe that the accuracy index of the repetitions and spontaneous set was the same in 4 tapes (100%), and larger for the spontaneous set in 5 tapes and for the repetitions set in 2 tapes. The mean accuracy index for the set of repetitions was 93.7%, for the spontaneous set it was higher, 99.1%. This was statistically significant difference ($t=1.704$, $p<.05$). That is, she was more likely to make "errors" while repeating a verb form than while using verbs spontaneously.

Chart IV shows the order of appearance and acquisition of the forms in both the spontaneous and repetitions sets.

—Chart IV—

Throughout the tapings the set of spontaneous forms was more complex than that of repetitions. It had 8 forms, whereas the repetitions set had only 6. The forms present in both sets were the imperative, the first and third singular and first plural present, and the first and third singular preterit. The forms not present in repetitions were the first singular periphrastic future and the second singular preterit.

Of the forms used in both sets, 2 appeared simultaneously in both sets 2 in the set of repetitions and 2 in the spontaneous set.

In terms of the acquisition of forms, 4 were acquired in both sets. The first singular present was required in both sets simultaneously; the third singular preterit was acquired initially spontaneously; the third singular present was acquired initially as a repetition. The imperative was acquired only in the spontaneous set; the first singular present was acquired

TABLE 3

COMPARISON OF LINA'S SPONTANEOUS AND REPETITIONS VERB SYSTEMS

	TAPE											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
TOTAL verb forms	54	23	41	110	111	84	90	39	45	38	33	137
"Appropriate"	54	21	41	110	109	84	89	37	45	36	32	132
percentage	100	91.3	100	100	98.2	100	98.9	94.9	100	94.7	97.0	96.4
SPONTANEOUS verb forms	50	17	25	96	86	68	52	30	45	22	9	104
"Appropriate"	50	17	25	96	85	68	51	28	45	22	9	103
percentage	100	100	100	100	98.8	100	98.1	93.3	100	100	100	99.0
REPETITIONS verb forms	4	6	16	14	25	16	28	9	0	16	23	33
"Appropriate"	4	4	16	14	24	16	28	9	0	13	22	29
percentage	100	67.7	100	100	96.0	100	100	100	-	83.3	95.7	87.9
Total verb forms	54	23	41	110	111	84	90	39	45	38	33	137
Spontaneous	50	17	25	96	86	68	52	30	45	22	9	104
percentage	92.6	73.9	61.0	87.3	77.5	81.0	57.8	76.9	100	57.9	27.2	75.9
Repetitions	4	6	16	14	25	16	28	9	0	16	23	33
percentage	7.4	26.1	39.0	12.7	22.5	19.0	42.2	23.1	0	42.1	72.7	24.1

FIGURE 1
ACCURACY OF VERB SYSTEM- LIANA

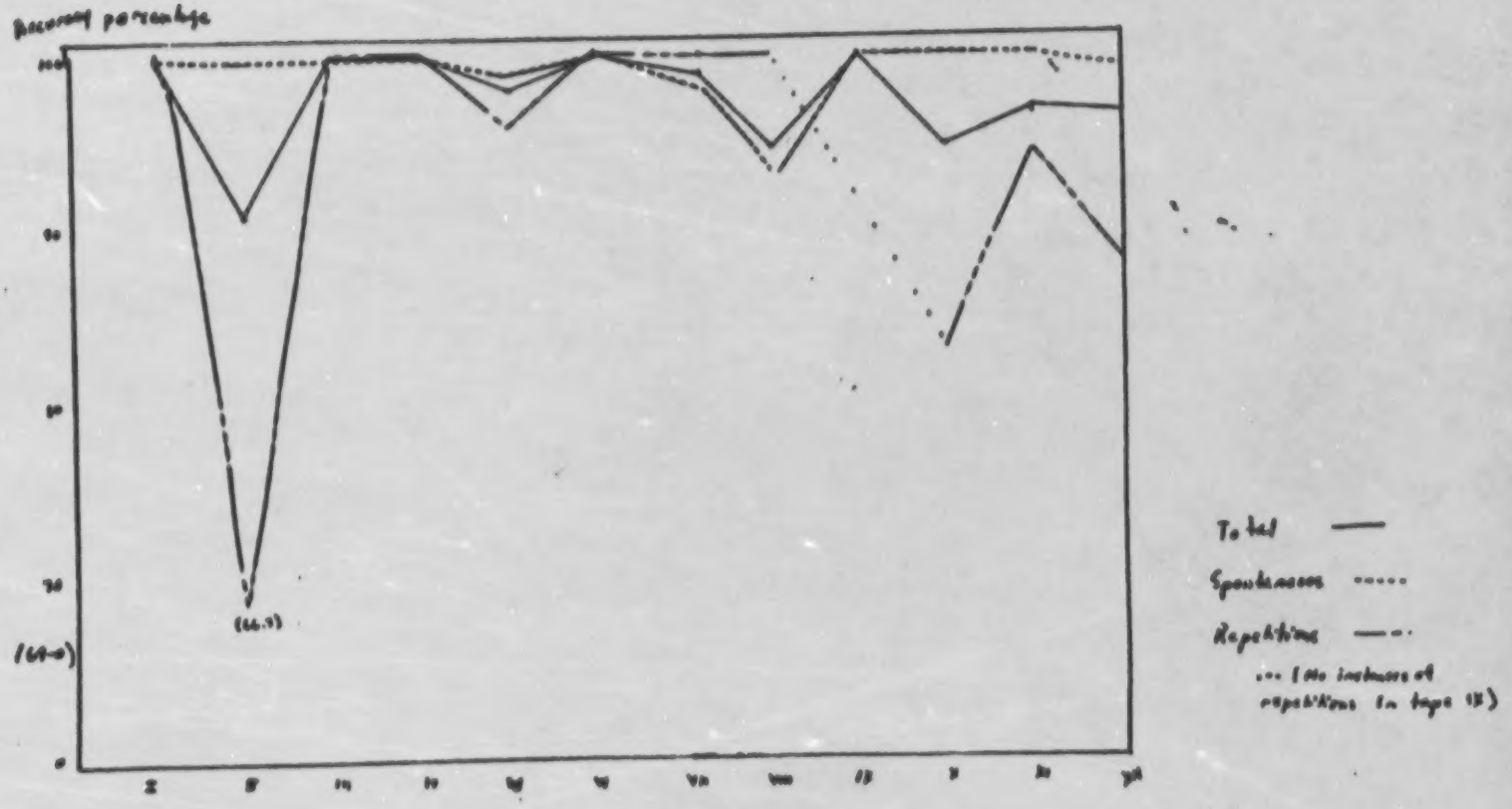


CHART IV

ORDER OF APPEARANCE AND ACQUISITION OF VERB FORMS IN THE SPONTANEOUS AND REPETITIONS SETS IN LINA

ORDER OF APPEARANCE

Age (months)	Tape	Spontaneous	Repetitions
18	I	Imperative First singular present First singular preterit Third singular preterit	Imperative First singular present Third singular present
19	II		Third singular preterit
19	III	Third singular present	
20	IV		First plural present
21	V	First singular periphrastic future	
22	VI	First plural present Second singular preterit	
24	X		First singular preterit

ORDER OF ACQUISITION

18	I	Imperative First singular present Third singular preterit	First singular present Third singular present
19	II		Third singular preterit
19	III	Third singular present	
20	IV		First plural present

only as a repetition.

Following is a discussion of all the forms present and/or required in Lina's system.

ACQUIRED IN BOTH SETS

First singular present - This form appeared and was acquired in both sets in tape I. It was always used when required. It was used "inappropiately" instead of the imperative, as a repetition.

	L: Yo coio	/I take/
	(I:44)	
	A: ¿Qué tú quieres?	/What do you want?/
	A: ¿A ver qué?	/To see what?/
(rD)	L: Quiero mami.	/I want mommy./
	(I:80)	

Third singular present - It appeared and was acquired initially as a repetition in I. It appeared and was acquired spontaneously in III. It was always used as required, and unlike the other children, it was not used "inappropiately" in any context.

	A: ¿Y éste, quién es este?	/And this, who is this?/
	(mirando fotografía)	(showing a pircture)
(rA)	L: Esta es nena.	/This is the girl./
	(I:12)	
	L: Está ahí.	/It is there./
	(III-81)	

Third singular preterit - It appeared and was acquired initially spontaneously in I. It appeared and was acquired initially as a repetition in II . It was always used as required. It was used "inappropiately" in both sets instead of the first singular preterit, and instead of the third plural preterit as a repetition.

L:	Cayó ahí	/(It) fell there./
	(un bloque)	(a block)
	(II-20)	
A:	¿Se cayó?	/Did it fall?/
A:	¿Y ahora, Lina, qué le pasó?	/And now, Lina, what happened to it?/
(rA) L:	Cayó ahí	/It fell there./
	(I:26)	

ACQUIRED ONLY SPONTANEOUSLY

Imperative - It appeared initially in both sets in I, when it was acquired in the spontaneous set. The third singular subjunctive present was used "inappropiately" instead of it in both sets; and the first singular present was used instead of it as a repetition.

In the repetitions it seemed to have been acquired from tape I on; but it was not used as required in tapes X to XII.

A:	¿Tú quieres que yo la oiga?	/Do you want me to hear it?/
L:	Dame	/Give me./
A:	¡Ah!	/Ah!/
(rD) L:	Oye ahí	/Hear there/
	(IV:31-32)	

First singular present instead of imperative

A:	¿Y qué hago?	/What should I do?/
L:	Lo pones	/You put it./
A:	¿Lo pinto?	/Do I paint it?/
(rB) L:	Lo pinto	/(I) paint it./
	(XI:50-51)	

Third singular subjunctive present instead of imperative

A:	¿Qué lo pinte aquí?	/That (I) paint it here?/

A: ¿Qué lo pinte así como tú? /That (I) paint it like you?/

A: ¿Qué tú haces? /What are you doing?/

A: Lina, ¿Qué tú haces? /Lina, what are you doing?/

*(rB)L: Pinte /That it paint/

(X:1)

A: ¿Qué pasó? /What happened?/

* L: Apague /That it turn off./
(la luz) (The light)

(VIII-17)

ACQUIRED ONLY AS A REPETITION

First plural present - It appeared and was acquired initially as a repetition in IV. It appeared spontaneously in VI, but was not used again spontaneously. It was always used when required.

A: Mira, vamos a jugar aquí. /Look, lets go play over there/

A: ¿Tú quieres ir a la sala? /Do you want to go to the living room?/

L: Vamos /Lets go/

(IV-26)

L: Vámonos. /Lets go./

(VI:24)

PRESENT IN BOTH SETS, NOT ACQUIRED IN EITHER

First singular preterit - It appeared initially in the spontaneous set in I. It was required but not used as a repetition in V, and was later used in X.

The third singular preterit was the form used instead of it in both sets.

L: Mami, volví. /Mommy, (I) came back./

(I-117)

A: ¿Porqué tú pintaste eso, Lina? /Why did you paint that, Lina?/

(rD)L: Lo pinté /(I) painted it./

(X:72)

Third singular preterit instead of first singular preterit

A: ¸Cógela por ahí /Grab it by that end./

(rE)*L: ¡Ah: Cogió. /Ah: (She) grabbed (it)/

(V:141)

*Ya terminó /(She)finished already/

(V:65)

PRESENT ONLY IN THE SPONTANEOUS SET

First singular periphrastic future - It appeared only once, "appropiately" in V.

L: Yo voy a jugar /I am going to play./

(V-72)

Second singular preterit - It appeared only once, "appropia-tely" in VI.

L: ¿Viste? /Did you see?/

(VI-67)

USED ONLY "INAPPROPIATELY"

Third singular subjunctive present - It was used spontaneously in VIII, as a repetition in X and XII. In both instances it was used instead of the imperative.

See X:72, above

REQUIRED, BUT NOT USED

Third plural preterit - The context for it was required

which was in II. The form used instead of it was the third singular preterit.

A: ¿Se cayeron? ¡ay! /(They) fell. Ay!/
*(rC)L: Cayó /(It) fell/
(II-21)

DIFFERENTIAL INFLUENCE OF REPETITIONS

Table 4 lists separately the frequency for each category of the repetitions.

Figure 2 illustrates the trend for "inappropiate" repetitions.

—Table 4 —
—Figure 2 —

As Lina made few "errors", it fluctuated. The specific "errors" are discussed below.

"APPROPIATE" REPETITIONS

Positive influence (A)- This type of repetition occurred with the majority of the forms present in her repetitions verb system: imperative, third singular and first plural present and third singular preterit.

Third singular preterit - See I:26page 38

Imperative -

A: Mira, Lina /Look, Lina./

(rA)L: ¡Ay, ma, mira! /Oh, mom, look./
(I:54)

This positive influence is more evident in the third singular present and first plural present forms as they appeared initially with this type of repetition.

TABLE 4

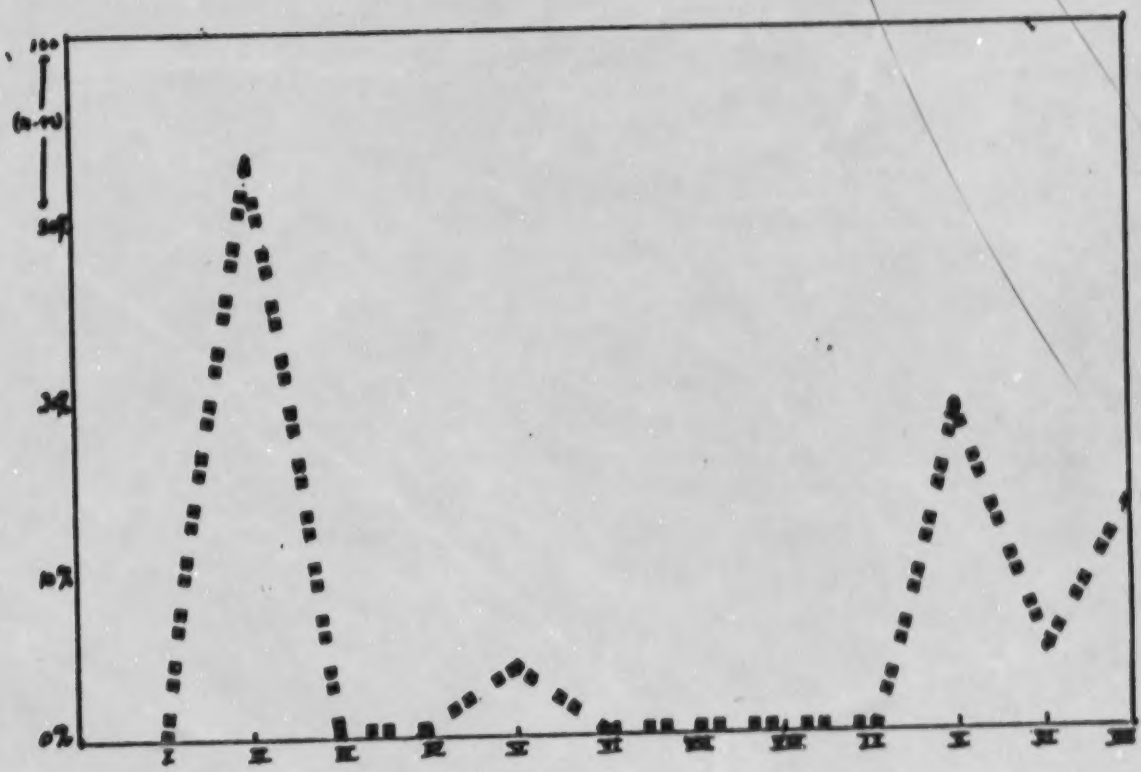
TYPES OF REPETITIONS IN LINA

	TAPE											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Positive influence (A)	4	4	16	11	19	14	18	9	0	10	17	23
percentage	100	66.7	100	78.6	76.0	87.5	64.3	100	0	62.5	73.9	69.7
Negative influence (B)	0	0	0	3	0	0	0	0	0	3	0	4
percentage	0	0	0	21.4	0	0	0	0	0	18.8	0	12.1
Imperviousness of system (C)	0	2	0	0	1	0	0	0	0	0	0	0
percentage	0	33.3	0	0	4.0	0	0	0	0	0	0	0
Firm knowledge (D)	0	0	0	0	5	2	10	0	0	3	5	6
percentage	0	0	0	0	20.0	12.5	35.7	0	0	18.8	21.8	18.2
No influence (E)	0	0	0	0	0	0	0	0	0	0	1	0
percentage	0	0	0	0	0	0	0	0	0	0	4.3	0
"Appropriate" (A+D)	4	4	6	14	24	16	28	9	0	13	22	29
percentage	100	66.7	100	100	96.0	100	100	100	0	81.3	95.7	87.9
"Inappropriate" (B+C+E)	0	2	0	0	1	0	0	0	0	3	1	4
percentage	0	33.3	0	0	4.0	0	0	0	0	18.8	4.3	12.1

FIGURE 2

PERCENTAGE OF "INAPPROPRIATE" REPETITIONS

LINA



Lina ▪ ▪▪ ▪▪

Third singular present - See I:12 page 37

First plural present - See IV:26 page 39

Firm Knowledge (D) - This type of repetition occurred with the imperative, first and third singular and first plural present. It occurred only in this type of repetition with the first singular preterit.

Imperative

A: ¿Lo aprieto? /(I) crush it?/

(rD)L: Aprieta /Crush it/

(IV-6)

First singular present

A: Enseñale al nene como tu pintas /Show the boy how you paint/

(rD)L: Me pinto más /(I) paint myself more./

(V:16)

First plural present

A: Pero, ¿tú vas a ir con un solo zapato? /But.. Are you going out with only one shoe?/

A: ¿Qué tú quieres? /What do you want?/

A: Toma el otro zapato /Take the other shoe./

L: Mira /Look/

A: ¿Y ahora, que hago yo que no tengo zapato? /And what do I do, now that I have no shoes?

(rD)L: Vamos /Let's go./

(V-157,158)

First singular preterit - See X:72 page 40

"INAPPROPIATE REPETITIONS"

Negative influence (B)- This type of repetition occurred with the third singular subjunctive instead of the imperative (which had occurred spontaneously) and with the first singular present instead of imperative.

Third singular subjunctive present instead of imperative- See X:1 page 39

First singular present instead of imperative - See XI:50,51 page 38

Imperviousness of system (C)- This type of "error" occurred with the third singular preterit instead of the third plural preterit in II. This "error" was made only as a repetition.

Third singular preterit instead of third plural preterit - See II:21, page 41

No influence (E)- It occurred only once, in V, with the third singular preterit being used instead of the first singular preterit. This is consistent with his spontaneous set at the time, which included this "error".

Third singular preterit instead of first singular preterit - See V:141, page 40

SUMMARY OF LINA'S VERB SYSTEM DEVELOPMENT

During the eight months that Lina's speech was taped, her system developed from one including 5 forms in 3 tenses to one which included 8 forms in 4 tenses. The first tape included the imperative and the present and preterit indicative tenses; the periphrastic future was subsequently added, as was the only "inappropriate" use of the subjunctive present tense. In terms of complexity her system was relatively slow to develop, as only 3 forms were added in the 8 months of tapings, 2 of which were used only in one tape.

The first and third persons had appeared simultaneously in the tenses used in the first tape made of her speech (present and preterit). However, the first singular preterit had not been acquired, whereas the third singular form was.

In general, her system was quite accurate; she made few "errors". However, we can observe a decreasing trend in accuracy from tape V on, the poir in which she made the first spontaneous "errors". Both the imperative (in the set of repetitions) and the first singular preterit (in both sets) show a decrease in accuracy from that tape on, although at that point they seemed to have been acquired.

When comparing the spontaneous and repetitions sets, we find that the set of repetitions is significantly less accurate, but also less complex overall. There were more "errors" in terms of frequency and diversity even though, overall, the ratio of spontaneous to repetitions forms was almost 4:1.

Her system did not include any third person plural, spontaneously or in repetitions. There were " errors" in which these forms were required but not used.

A particularity of Lina's system is that the third singular present person, the least marked form, is not used "inappropriately", contrary to what happened in all the other children taped both in Puerto Rico and Boston. It seems as if the third singular preterit form served this function of being the "basic" form for her.

As Lina was the youngest child, and the one who had the least complex system both in terms of forms present and acquired, it would seem as if some of the characteristics we found in the other children might also happen eventually in her verb system.

ANALYSIS OF GINNIE'S VERBS

Ginnie's speech was taped for 10 months. The data analyzed included 15 tapes made at approximately 2 to 3 weeks intervals. She was 20 months old when we first taped her speech; by the last tape she was 29 months old.

GENERAL INFORMATION ON VERBS

Some general information about the utterances and verbs included in this analysis is summarized in Table 5 . Table 6 illustrates the pattern of development of the verbs Ginnie used, taking into consideration whether the verbs were present in the spontaneous and or repetition set.

--- Table 5 --

--- Table 6 --

Throughout the tapings, her verb system became increasingly complex. The number of type verb forms increased from 3 in tape I to a total of 10 by the last tape. In addition, 3 forms had been used only in "inappropriate" contexts.

The three moods were present in her system: imperative, indicative and subjunctive. Within the indicative, the tenses were the present, preterit and periphrastic future. Within the subjunctive, only the present was used, only "appropriately". In the imperative mood, only the singular form was used.

In the present indicative tense the third singular form was present in I, but did not appear again until VI, when it was classified as acquired. The first singular was also present in I, but did not appear again until VIII; it had not been acquired by the last tape. Of the plural persons, the first appeared in VIII and was used thereafter, although it was not acquired; the third was used only once, "inappropriately".

In the preterit indicative tense the third singular appeared and was acquired in VIII, and from then on was always used as required. The first singular also appeared in VIII, but its accuracy fluctuated; it was used as

TABLE 5

GENERAL INFORMATION ON VERBS ANALYZED IN GINNIE

	TAPE														
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
Number of utterances analyzed											410	234	246	398	558
Number of personal forms	5	3	12	9	21	30	11	37	68	48	118	88	84	79	164
analyzed	5	3	12	9	21	29	11	26	68	44	117	78	79	75	161
"Appropriate"	100	100	100	100	100	96.7	100	100	97.0	91.6	99.1	88.6	94.0	94.9	98.7
percentage															
Regularizations															
Type forms used	3	1	1	1	1	2	1	8	7	3	6	7	4	4	6
Type forms required, not used	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1
Type forms used, not required	0	0	0	0	0	0	0	0	1	1	0	1	2	4	0

TABLE 6

DEVELOPMENT OF GINNIE'S VERB SYSTEM

Form	TAPE I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
Imperative	(S)R	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR
Present indicative															
First singular	S	–	–	–	–	nS	–	SR	SnR	SR	SnR	SR	R	SR	S
Third singular	S	–	–	–	–	(R)	–	(S)R	SR	S	SR	SR	SR	SR	SR
First plural	–	–	–	–	–	–	–	R	S	–	–	S	S	–	S
Third plural	–	–	–	–	–	–	–	–	–	–	–	–	–	1S	–
Preterit indicative															
First singular	–	–	–	–	–	–	–	S	S	–	–	S	1S	1SR	nS
Second singular	–	–	–	–	–	–	–	–	(S)	–	SR	S	–	–	–
Third singular	–	–	–	–	–	–	–	(S)	–	–	SR	S	–	S	SR
Periphrastic future															
First singular	–	–	–	–	–	–	–	–	R	–	–	–	–	nSR	–
Third singular	–	–	–	–	–	–	–	–	–	–	–	S	–	1R	–
First plural	–	–	–	–	–	–	–	S	–	–	–	–	–	–	–
Subjunctive present															
First singular	–	–	–	–	–	–	–	–	1S	–	1R	1R	1R	–	–
Third singular	–	–	–	–	–	–	–	–	–	1S	–	–	–	–	1S

required, used "inappropriately", and sometimes not used when required. The second singular appeared and was acquired in IX.

In the periphrastic future tense the first singular was used initially in IX and required but not used in XIV. The third singular appeared in XI once and was "inappropriately" used in XIV. The first plural appeared in VIII. The third plural was used, "inappropriately", once in X.

The present subjunctive forms used were the first and the third singular. The first singular was used both "appropriately" and "inappropriately"; whereas the third singular was used only "inappropriately".

Chart V shows the order of appearance and acquisition of the verb forms in Ginnie's system. As expected, the order of acquisition does not coincide with the order of appearance. As an illustration of this point, the imperative appeared in the first tape, when she was 21 months old, but was not acquired until she was 28 months old, in tape XII. Of the 10 forms present in her system, only 4 had been acquired by the last tape.

—Chart V —

For Ginnie, in the tenses she used from the first tape on, the third and first singular person appeared simultaneously (present and preterit), or the first plural person appeared initially (periphrastic future). In terms of acquisition, the third singular was the form initially acquired within the tense, a pattern that we find in most of the other children.

ANALYSIS OF THE "ERRORS"

Chart VI lists the "errors" made by Ginnie. As with the other children, the form most frequently used in "inappropriate" contexts was the third singular present, which suggests that it is a basic form. It was used instead of the imperative in the repetitions set, instead of the first plural present spontaneously, and instead of the first singular present in both sets. The other forms used "inappropriately" were the third singular present, preterit, periphrastic future and subjunctive present; the third plural present and periphrastic future; the first singular present, preterit and subjunctive present, and the imperative. In Ginnie, we can observe that she uses "inappropriately" all of the forms present in her system.

—Chart VI —

CHART V

ORDER OF APPEARANCE AND ACQUISITION OF GINNIE'S VERB FORMS

Age (months)	Tape	Order of appearance	Order of acquisition
20	I	Imperative First singular present Third singular present	
24	VI		Third singular present
24	VIII	First singular preterit Third singular preterit First singular periphrastic future First plural periphrastic future	Third singular preterit
25	IX	First plural present Second singular preterit	Second singular preterit
26	XI	Third singular periphrastic future	
28	XII		Imperative

CHART VI

GINNIE'S "ERRORS"

Form used	Form required
Third singular present	First singular present (SR) Imperative (R) First plural present (S)
Third singular subjunctive present	Imperative (S) First singular present (S)
Third singular periphrastic future	First singular periphrastic future (R)
Third singular preterit	First singular preterit (S)
Third plural present	First singular present (S)
First singular present	Imperative (S)
Third plural periphrastic future	First singular periphrastic future (S)
First singular subjunctive present	First singular present (R) First singular periphrastic future (S) Imperative (R)
First singular preterit	Imperative (S) First singular periphrastic future (S)
Imperative	First singular present (S)

An analysis of this chart shows that, of the instances in which a third singular form was used, the first "error" to appear involved this form, and that it was the person used most frequently instead of other forms.

COMPARISON OF SPONTANEOUS AND REPETITIONS SET

Table 7 compares the accuracy of the total verb system with that of the verbs in the spontaneous and repetitions sets. These differences are illustrated in Figure 3.

—Table 7 —
—Figure 3 —

We can observe that the accuracy index of the repetitions and spontaneous set was equal in six tapes, larger for the spontaneous set in 6 tapes, and larger for the set of repetitions in 3 tapes. The mean accuracy for the set of repetitions was smaller, 95.9% compared to 97.4% in the spontaneous set, which is not a significant difference. However, if we include only the tapes from VI on, which is the first instance in which her system had an "error", we find a significant difference ($t=1.734$ $p < .05$), with the mean for the spontaneous set being 95.9% and that of the set of repetitions 93.5%.

Chart VII shows the order of appearance and acquisition of the forms in both sets.

—Chart VII —

Throughout the tapings, the set of spontaneous forms was more complex than that of the repetitions; there were 9 forms in the spontaneous set, whereas there were 8 forms in the set of repetitions. The forms present in both sets were the imperative, first and third singular present and preterit, second singular preterit, and the first plural present. The spontaneous set had, in addition, the first plural periphrastic future and the third singular periphrastic future. The set of repetitions had the first singular periphrastic future.

Of the 7 forms present in both sets, 5 appeared initially spontaneously:

TABLE 7

COMPARISON OF SPONTANEOUS AND REPETITIONS VERB SETS - TINNIE

	Tape														
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
TOTAL verb forms	5	20	12	9	21	30	11	37	68	48	118	89	84	79	164
Appropriate	5	20	12	9	21	29	11	36	66	44	117	78	79	75	161
PERCENTAGE	100	100	100	100	100	96.7	100	97.0	97.0	91.6	99.0	88.6	94.0	94.9	98.2
SPONTANEOUS verb forms	4	17	3	8	17	23	10	28	58	34	87	74	69	65	145
Appropriate	4	17	3	8	17	22	10	28	57	30	87	67	66	62	142
PERCENTAGE	100	100	100	100	100	95.7	100	100	98.2	88.2	100	90.5	95.6	95.3	97.9
REPETITIONS verb forms	1	3	9	1	4	7	1	9	10	14	31	15	15	14	19
Appropriate	1	3	9	1	4	7	1	8	9	14	30	12	13	13	19
PERCENTAGE	100	100	100	100	100	100	100	88.8	90.0	100	96.7	80.0	86.6	92.8	100
TOTAL verb forms	5	20	12	9	21	30	11	37	68	48	118	89	84	79	164
SPONTANEOUS verb forms	4	17	3	8	17	23	10	28	58	34	87	74	69	65	145
PERCENTAGE	80.0	85.0	25.0	88.8	80.9	76.7	90.9	75.7	85.3	70.8	73.7	83.1	82.1	82.3	88.4
REPETITIONS verb forms	1	3	9	1	4	7	1	9	10	14	31	15	15	14	19
PERCENTAGE	20.0	15.0	75.0	11.2	19.1	23.3	9.1	24.3	14.7	29.2	26.3	16.9	17.9	17.7	11.6

FIGURE 3

ACCURACY OF VERB SYSTEM - GINNIE

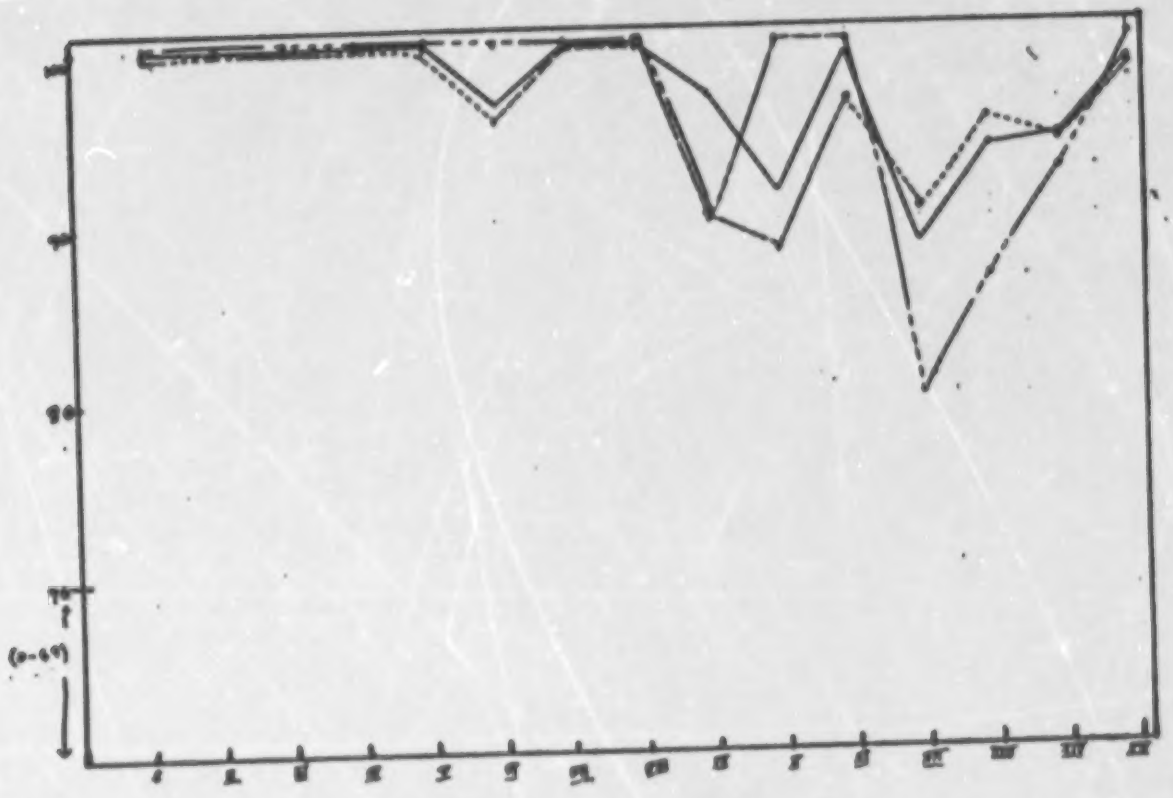


CHART VII

ORDER OF APPEARANCE AND ACQUISITION OF SPONTANEOUS AND REPETITIONS VERB FORMS IN GINNIE

ORDER OF ACQUISITION

Age (months)	Tape	Spontaneous	Repetitions
20	I	Imperative	
24	VI		Third singular present
24	VII	Third singular present Third singular preterit	
25	IX	Second singular preterit	

ORDER OF APPEARANCE

20	I	Imperative First singular present Third singular present	Imperative
24	VI		Third singular present
24	VIII	First singular preterit Third singular preterit First plural periphrastic future	First plural present First singular present
25	IX	Second singular preterit First plural present	First singular periphrastic future
26	XI	Third singular periphrastic future	Second singular preterit Third singular preterit
29	XIV		First singular preterit

the first and third singular present, the first, second and third singular preterit. The first plural present appeared initially as a repetition.

In terms of the acquisition of forms, we can observe that the spontaneous set is more complex as it includes 4 forms, whereas the set of repetitions includes only one, the third singular present.

A discussion and examples of each form used follows.

ACQUIRED IN BOTH SETS

Third singular present - This was the form used most often in both sets, and which was always used when required. Although it appeared initially spontaneously, it was first acquired in the set of repetitions in VI, it was acquired in the spontaneous set in VII.

It was the form most often used "inappropriately". In both sets it was used instead of the first singular present, as a repetition it was used instead of the imperative, and in the spontaneous instead of the first plural present.

G: Diana está — /Diana is/
(I:51)

R: ¿Para dónde tú vas ? — /Where are you going?/
...

G: Sandy — /Sandy (her sister)/
(rD) G: Se va — /(She) is going)/
(IX:189)

PRESENT IN BOTH SETS, ACQUIRED ONLY IN SPONTANEOUS SET

Imperative - This is the form used more frequently by Ginnie. In fact, after the first tape, the following five include only imperatives. It appeared in both sets at the same time, in I. It was acquired at that tape in the spontaneous set, it had not been acquired as a repetition by

the last tape. The forms used instead of it were the third singular present and subjunctive present in both sets, and the first singular subjunctive present in the set of repetitions, and the first singular present and first singular preterit in the spontaneous set. It was used, in the spontaneous set, instead of the first,singular present.

G: Apeate /(You) get down/
(I:39)

First singular subjunctive present instead of imperative

R: ¿Que lo abra? /That I open it?/
(rB)*G: Abra /Open/
(XIII:90)

Third singular present instead of imperative

R: ¿Te lo pongo? /Do I put it on you?/
(rE)*G: Pone /(S/he) puts/
(XII:162)

Second singular preterit - It was used and acquired in the spontaneous set in IX, and was always used when required. It appeared and was used only once as a repetition, in XI.

G: ¿Viste? /Did (you) see?/
(IX:107)

R: ¿Viste? /Did (you) see?/
(rA)G: ¿Viste?
(XI:136)

Third singular preterit - It was used and acquired initially in the spontaneous set. It also appeared in the set of repetitions and was always used as required, but there were not enough instances present for it to reach acquisition.

G: Se partió /It broke/
(XI:256)

A: ¿Qué fué? /What happened?/

(rA)G: Se fue /He left./

(XI:256)

PRESENT IN BOTH SETS, NOT ACQUIRED IN EITHER

First singular present - It appeared initially spontaneously. Subsequently it was required but not used, and sometimes used when required. This fluctuation occurs in both sets. The form did not seem to be reaching acquisition in either set by the last tape. It was used once instead of the imperative in the spontaneous set. The forms used instead of it were the third singular present in both sets; and the third singular subjunctive present, third plural present and the imperative form in the spontaneous set.

G: Yo quiero nena /I want girl./

(I:16)

A: ¿Qué estás haciendo? /What are(you)doing?/

(rD)G: Estoy pintando /(I) am painting./

(X:75)

Third singular present instead of imperative

A: ¿Tú quieres esto? /You want this./

M: Ginnie, ¿Qué es esto? /Ginnie, what is this?/

*(rB)G: Yo quiere jugar /I cants to play./

(IX:115)

First plural present - It appeared initially as a repetition in VIII; in the spontaneous set it appeared in IX. In both sets it was used as required. It was required but not used once; the form used instead of it was the third singular present.

G: Vamos /Let's go./

(IX:164)

A: ¿Vamos a hacerle avena? /Shall we cook oatmeal?/
(rA)G: Vamos /Let's/
(IX:51)

First singular preterit - It appeared initially and was most frequently used when required in the spontaneous set. Its use fluctuated from being used as required, being used only "inappropriately" and not being used when required. In the repetitions set it was used as required only once, in XIV.

The form used instead of it was the third singular preterit. It was used instead of the imperative form and instead of the first singular periphrastic future.

G: No fuí /(I) did not go./
(XIII:184)

A: ¿Las guardo? /Shall (I) put them away?/
(rD)G: Guardé /(I) put them away./
(XIV:260)

Third singular preterit instead of first singular preterit

* G: Lo vió /(She) saw it./
(refiriéndose a ella) (refering to herself)
(XV:531)

PRESENT ONLY IN SPONTANEOUS SET

First plural periphrastic future - It appeared only once, in VIII.

G: Va a dormir /(She) is going to sleep./
(XI:31)

PRESENT ONLY IN SET OF REPETITIONS

First singular periphrastic future - This form was used when

required only as a repetition in IX. It was also not used when required both as a repetition and spontaneously. The forms used instead were the third singular periphrastic future as a repetition and the first singular subjunctive present form spontaneously.

A: ¿Para donde tú vas? /Where are you going?/
(rD)G: Oh, yo voy a venir /Oh, I am going to come./
(IX:281)

Third singular periphrastic future instead of first singular periphrastic future

A: ¿Qué tu vas a hacer? /What are you going to do?/
*(rB)G: Va a hablar /(She) is going to talk./
(XIV:391)

USED ONLY "INAPPROPRIATELY" IN BOTH SETS

First singular subjunctive present- This form which is morphologically identical to the third singular form was used "inappropriately" in both sets (initially as a repetition). It was used instead of the imperative and the first singular present as a repetition, and instead of the first singular periphrastic future spontaneously.

First singular subjunctive present instead of first singular periphrastic future

A: ¿Qué vas a hacer? /What are(you) going to do?/
* G: Apee /(That I) get down./
(IX:275)

First singular subjunctive present instead of imperative

A: ¿Qué lo abra? /That (I) open it?/
*(rB)G: Abra /That (I) open/
(XIII:90)

Third singular subjunctive present - This form was used only "inappropriately" in both sets. It was used instead of the imperative in both sets and instead of the first singular present in the spontaneous set. There were no instances in either set in which it was required and used "appropriately".

Third singular subjunctive present instead of imperative

* G: Vaya /(That I) goes./
(refiriéndose a Ana) (refering to Ana)
(X:98)

Third plural periphrastic future - This form was used only "inappropriately" instead of the first singular present form.

* G: A van a cocinar /(They) are going to cook./
(XIV:233)

DIFFERENTIAL INFLUENCE OF REPETITION

Table 9 lists separately the frequency for each category of the repetitions. Figure 4 illustrates the increasing trend of the inaccurate repetitions.

—Table 9 —
—Figure 4 —

When we combine the "inappropriate" repetitions (B,C and E), their accuracy percentage had an increasing trend. That is, as Ginnie's system became more complex, there was a tendency for an increase in the number of "inappropriate" repetitions with an apparently negative influence in the accuracy of her verb system. This is not the case for the last tape. In the initial tapes (I-VII) only the "appropriate" repetitions (A and D) were evident.

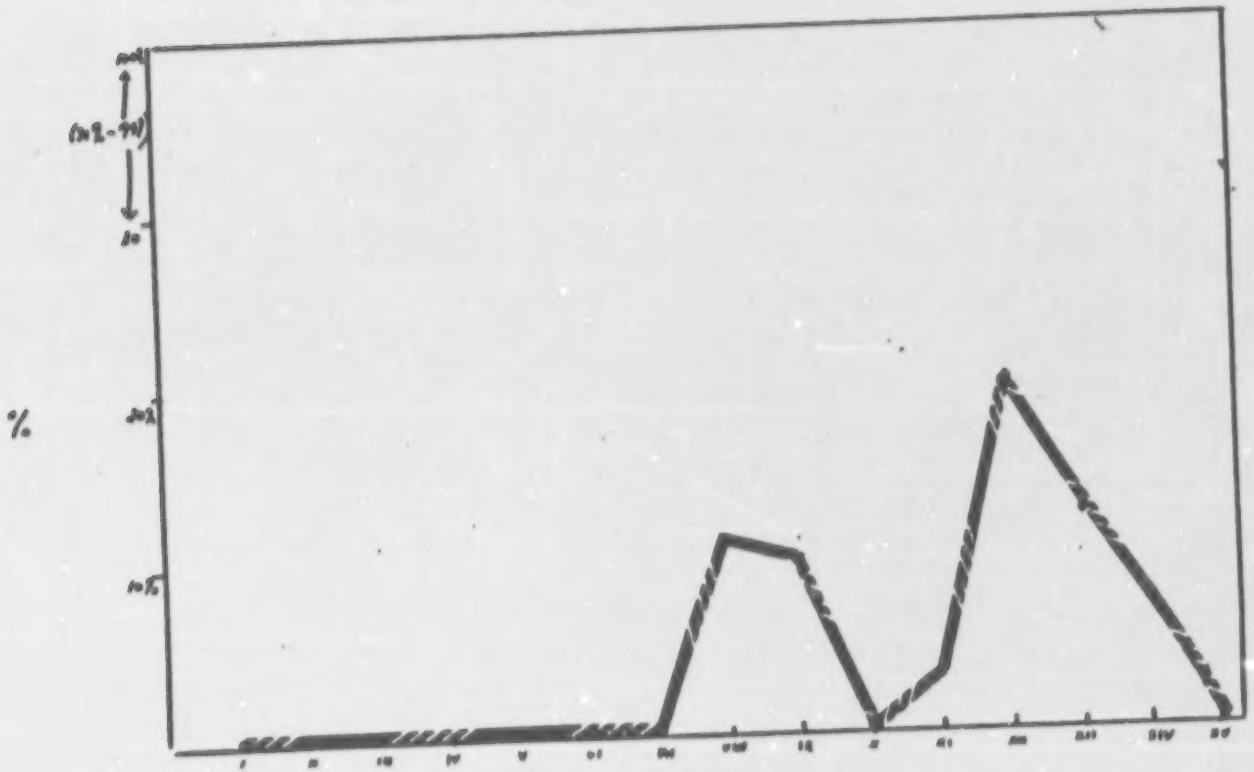
TABLE 9

TYPES OF REPETITIONS BY GINNIE

	TAPE														
Type of repetition	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
Positive influence (A)	1	2	3	1	3	4	0	4	5	8	27	12	8	5	19
percentage	100	66.7	100	100	75.0	57.1	0	44.4	50.0	57.1	87.1	80.0	53.3	35.7	100
Negative influence (B)	0	0	0	0	0	0	0	I	1	0	0	3	2	0	0
percentage	0	0	0	0	0	0	0	11.1	10.0	0	0	20.0	13.3	0	0
Imperviousness of system (C)	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
percentage	0	0	0	0	0	0	0	0	0	0	3.2	0	0	7.1	0
Firm knowledge (D)	0	1	0	0	1	3	1	4	4	6	3	0	5	8	0
percentage	0	33.3	0	0	25.0	42.9	100	44.4	40.0	42.9	9.7	0	33.3	57.1	0
"Appropriate" (A+D)	1	3	3	1	4	7	1	8	9	14	30	12	13	13	19
percentage	100	100	100	100	100	100	100	88.9	90.0	100	96.8	80.0	86.7	92.9	100
"Inappropriate" (B+C)	0	0	0	0	0	0	0	1	1	0	1	3	2	1	0
percentage	0	0	0	0	0	0	0	11.0	10.0	0	3.2	20.0	13.3	7.1	0

FIGURE 4

PERCENTAGE OF "INAPPROPRIATE" REPETITIONS
GINNIE



"APPROPRIATE" REPETITIONS

Positive influence (A) - This type of repetition occurred with the imperative, first and third singular and first plural present and second and third singular preterit. The form in which the positive influence is more evident is the first plural present.

All of the other forms were present in the spontaneous set at the time they were first sampled as repetitions.

Imperative

A: Mira, Ginnie /Look, Ginnie./
(rA)G: Mira, Ana /Look, Ana./
(XII:100)

Third singular present

A: La vaca, ¿qué hace? /The cow, what does it do?/
G: Vaca, ahí /Cow, there/
A: Moo /Moo/
(rA)G: Hace mau, mau /(It) does mau, mau/
(XV:109)

First plural present - See IX :51, page 52

Second singular preterit - See XI:136, page 50

Third singular preterit - See XI:256, page 50

Firm knowledge (D)- This type of repetition occurred with the imperative, first and third singular present and first singular preterit.

Imperative

A: Ginnie, ¿estas pintando? /Ginnie, are you painting?/

(rD)G: Pinta, Ana /Paint, Ana./
(X:76)

First singular present

A: ¿Estás pintando? /Are (you) painting?/
(rD)G: Estoy pintando /(I) am painting./
(X;75)

Third singular present

A: No estaba ahí /(It) was not there./
(rD)G: No está /(It) is not there./
(XIII:36)

First singular preterit

A: ¿Las guardo? /Will (I) put it in its place?/
(rD)G: Guardé /(I) put it in its place./
(XIV:260)

"INAPPROPRIATE" REPETITIONS

Negative influence (B) - This was the most frequent "inappropriate" type of repetition used by Ginnie. She repeated "inappropriately" the third singular present form instead of the first singular form, the third instead of the first singular periphrastic future, the third singular present form instead of the imperative and the first singular subjunctive present instead of the first singular present and the imperative. Evidence for mislead can be observed in the last four "errors" which only occurred as repetitions. In the use of the third instead of the first singular present form, it was also made spontaneously, but appeared as an "error" initially as a repetition.

Third singular present instead of first singular present

M: Tiene tres años, ¿sabes? /She's three years old, you know?

M: Cumplió dos el otro día y ya tiene tres — /She was two(years old) the other day and she already has three./

*(rB)G: Tiene tres — /(She) has three./

(VIII:98)

First singular subjunctive present instead of first singular present

A: No lo deies caer — /Don't let if fall./

*(rB)G: Deie caer — /Let fall./

(XII:247)

Third singular periphrastic future instead of first singular periphrastic future - See XII:391 page 53

First singular subjunctive present instead of imperative- See XIII:90 page 50

Imperviousness of the system (C) - This type of "error" occurred with the third instead of the first present form. As expected, this "error" was also evident in her spontaneous set.

No influence (E) - The only "error" classified as this type was the third singular present instead of the imperative. This "error" was consistent with her spontaneous system at the time.

Third singular present instead of imperative - See XII:162, page 50

SUMMARY OF GINNIE'S VERB SYSTEM DEVELOPMENT

During the 9 months in which Ginnie's speech was taped, her system developed from one which included 3 forms in 2 tenses to one which included 10 forms in 4 tenses. The development of her system was more evident from VII on, in which 3 new forms appeared. Before that tape, the imperative was the form most frequently used.

The first tape included the imperative and the present tenses. The tenses which followed were the preterit indicative and the periphrastic future. The only "inappropriate" use of the subjunctive present tense was subsequently added.

The first and third singular person forms appeared simultaneously in 2 of the tenses used (present and preterit). However, only the third singular persons were acquired, which is consistent with that for the other children (except for Lina).

Although Ginnie's set was quite accurate, she made many different type of "errors", the majority of them in the spontaneous set. She was likely to use forms "inappropriately", although not very frequently. That is, there were no pervasive "errors" in her system.

When comparing the spontaneous and repetition sets, we find that the accuracy for the set of repetitions is significantly lower. The majority of the "errors" made in repetitions were of type B (negative influence), in which she repeated the same form used previously by the adults.

The spontaneous set was more complex in terms of the forms both present and acquired. In addition, the majority of the forms appeared initially in the spontaneous set.

Her system is the one to follow Lina's in terms of complexity both in forms present and forms acquired. She was also the next in age of the children taped.

VII ANALYSIS OF ADRIAN'S VERB SYSTEM

Adrián's speech was taped for 8 months. The data analyzed included 11 tapes, made at approximately 2 to 3 weeks intervals. He was 29 months old when we first taped his speech. By the last tape he was 36 months old.

GENERAL INFORMATION ON VERBS

Some general information about the utterances and verbs included in the analysis is summarized in table 10 . Table 11 illustrates the development of the verb forms Adrián used, taking into consideration whether the forms appeared in the spontaneous and/or repetitions sets.

—Table 10 —
—Table 11 —

In Adrián we can obeserve that most of the verb forms appeared initially in the spontaneous set, with 6 forms in this set and 3 forms in the set of repetitions. Of the forms acquired in both sets, 4 were acquired initially in the spontaneous set (third singular present and preterit, and first and third singular periphrastic future); 3 in the set of repetitions (first plural present and periphrastic future, second singular preterit).

Throughout the tapings, the verb system became increasingly complex. The number of type verb forms increased from 9 in the first tape to 14 throughout the last tape. In addition, 3 forms had been used only in "inappropriate" contexts, and/or required but not used.

The three moods were present: imperative, indicative and subjunctive. Within the indicative, the tenses present were the present, preterit, periphrastic future and future. Within the subjunctive, the only tense included was the present. In the imperative, only the singular form was used.

In terms of the persons present in each tense, we will discuss the pattern of appearance and acquisition of each form.

In the present indicative tense, the third singular person appeared

TABLE 10

GENERAL INFORMATION ON VERBS ANALYZED IN ADRIAN

	TAPE										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Number of utterances analyzed	475	313	133	100	449	585	489	474	519	508	519
Number of personal forms analyzed	134	157	77	38	195	292	290	233	292	253	232
"Appropriate"	106	139	56	36	189	281	263	217	281	248	221
Accuracy percentage	79.1	88.5	72.7	94.7	96.9	96.2	94.1	93.1	96.2	98.0	95.2
Regularizations	0	0	0	0	0	1	0	8	4	0	11
Type forms used	9	9	5	4	7	10	9	9	10	13	13
Type forms required, not used	0	1	0	1	1	0	2	1	0	1	1
Type forms used, not required	1	2	1	0	1	1	1	1	1	0	0

TABLE 11

DEVELOPMENT OF ADRIAN'S VERB SYSTEM

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Imperative	SR	SR	S	(SR)	SR	SR	SR	SR	SR	SR	SR
Present indicative											
First singular	SR	SR	SR	Sir	SR	SR	SR	SR	SR	SR	SR
Third singular	(S)R	SR	SR	S	SR	SR	SR	S(R)	SR	SR	SR
First plural	-	(R)	-	R	R	(S)R	SR	S	SR	SR	S
Third plural	-	-	-	-	-	SnR	nS	-	S	SnR	S
Preterit indicative											
First singular	SR	S	iS	nS	nS	SR	SR	SR	SiR	S	SR
Second singular	(S)	S	-	-	-	S(R)	(S)R	-	-	S	SR
Third singular	S	S	S	-	SR	SR	(S)iR	S	SR	SR	SR
First plural	-	-	-	-	-	-	-	-	-	-	n(SR)
Third plural	-	-	-	-	-	-	-	nS	-	S	S
Periphrastic future											
First singular	S	(S)	S	-	s	SnR	S	S	SR	SR	SR
Third singular	iS	-	-	-	-	-	-	S	(S)R	S	SiR
First plural	-	(R)	-	-	(S)	SR	S	SR	SR	SR	S
Present subjunctive											
First singular	n(SR)	iR	-	-	iS	-	-	iR	-	nS	-
Third singular	S	i(RS)	-	-	-	iR	n(SR)	-	iS	iSR	-
Third plural	-	nS	-	-	-	-	iS	-	-	-	-
Future indicative											
Third singular	-	-	-	-	-	-	-	-	-	-	R

and was acquired in I; the first singular appeared in I but had not been acquired by the last tape. Of the plural persons, the first appeared and was acquired in II. The third appeared in VI.

In the preterit indicative tense, the second and third singular appeared in I; the second singular was acquired in VI, the third in VII. The first singular appeared in I in both sets, but had not been acquired by the last tape. The first plural appeared and was acquired in IV. The third plural appeared in X, although it was required and not used in VIII.

In the periphrastic future, the first singular appeared in I and was acquired in II. The third singular was used "inappropriately" only in I, and "appropriately" in VIII, acquired in IX. The first plural appeared and was acquired in VI.

In the future indicative tense, the only person present was the third singular, which was used only once, in XI.

The imperative singular form appeared initially in I, and was acquired in IV.

Chart VIII shows the order of appearance and acquisition of the verb forms in his system.

——Chart VIII——

The order of acquisition does not coincide with the order of appearance. As an illustration of this point, the imperative appeared in I, when he was 28 months old, but was not acquired until he was 29 months old. The first singular present indicative appeared from the first tape, but had not been acquired by the last tape. Of the 15 forms that were included in Adrián's system, only 7 had been acquired by the last tape.

For Adrián, in the tenses he used from the first tape on (present, preterit and subjunctive present), the first and third singular persons appeared simultaneously, or the first singular appeared initially(periphrastic future).

CHART VIII

ORDER OF APPEARANCE AND ACQUISITION OF ADRIAN'S VERB FORMS

Age (months)	Tape	Order of appearance	Order of acquisition
29	I	Imperative First singular present Third singular present First singular preterit Second singular preterit Third singular preterit First singular periphrastic future Third singular subjunctive present	Third singular present Second singular preterit Third singular preterit
29	II	First plural periphrastic future First plural present	First plural present First plural periphrastic future
30	IV		Imperative
31	VI	Third plural present	
32	VIII	Third singular periphrastic future	
33	IX		Third singular periphrastic future
35	X	Third plural preterit	
36	XI	Third singular future indicative	

When we analyze the order of acquisition, however, we observe that the third singular person was the type of form initially acquired (present and preterit indicative, and periphrastic future). The first singular person was not acquired in any of the tenses in which it appeared (present, preterit indicative, periphrastic future and subjunctive present). However, the first plural persons which appeared were subsequently acquired (present and periphrastic future). The third plural persons, although used, were not acquired (present and preterit).

ANALYSIS OF "ERRORS"

Chart IX lists the "errors" made by Adrián. The form most frequently used in "inappropriate" contexts was the third singular present indicative, which suggests that this is a basic form. It was used instead of the imperative, first singular and plural present, third plural present, first singular preterit, and first singular periphrastic future and subjunctive present.

The other forms used "inappropriately" were the third singular present subjunctive, preterit and periphrastic future, the first singular present, preterit periphrastic future and present subjunctive, the imperative, the first plural present and the third plural present and present subjunctive.

—Chart IX —

An analysis of this chart reveals that of the instances in which a third singular form was used, the first "error" to appear involved these forms, and that it was the person used most frequently instead of other forms. In addition, almost all the forms present in Adrián's system were used in "inappropriate" contexts.

COMPARISON OF SPONTANEOUS AND REPETITIONS SETS

Table 12 compares the accuracy index of the total verb system with that of the verbs in the spontaneous and repetitions sets. These differences are illustrated in Figure 5.

—Table 12 —

—Figure 5 —

CHART IX

ADRIAN'S "ERRORS"

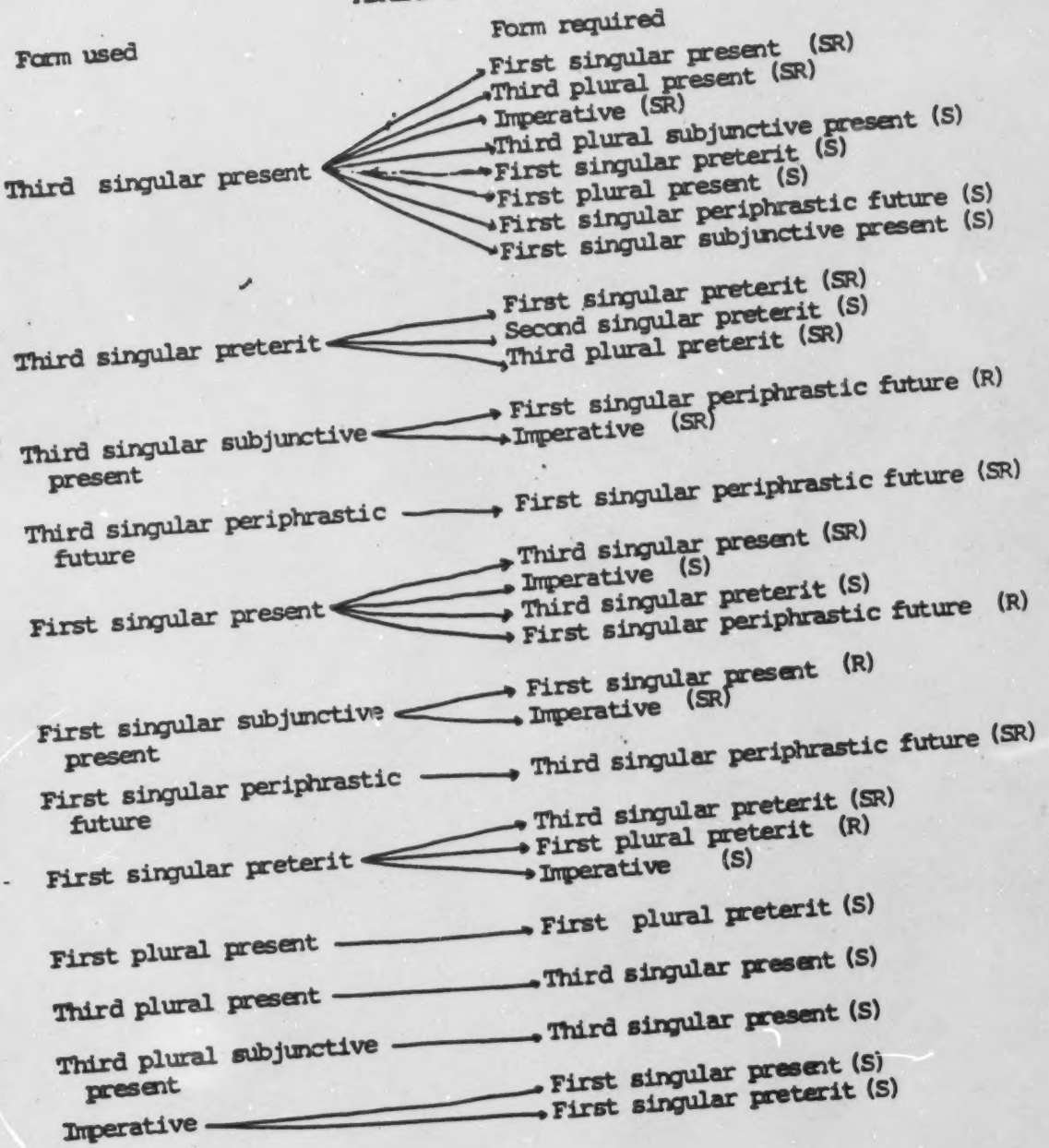


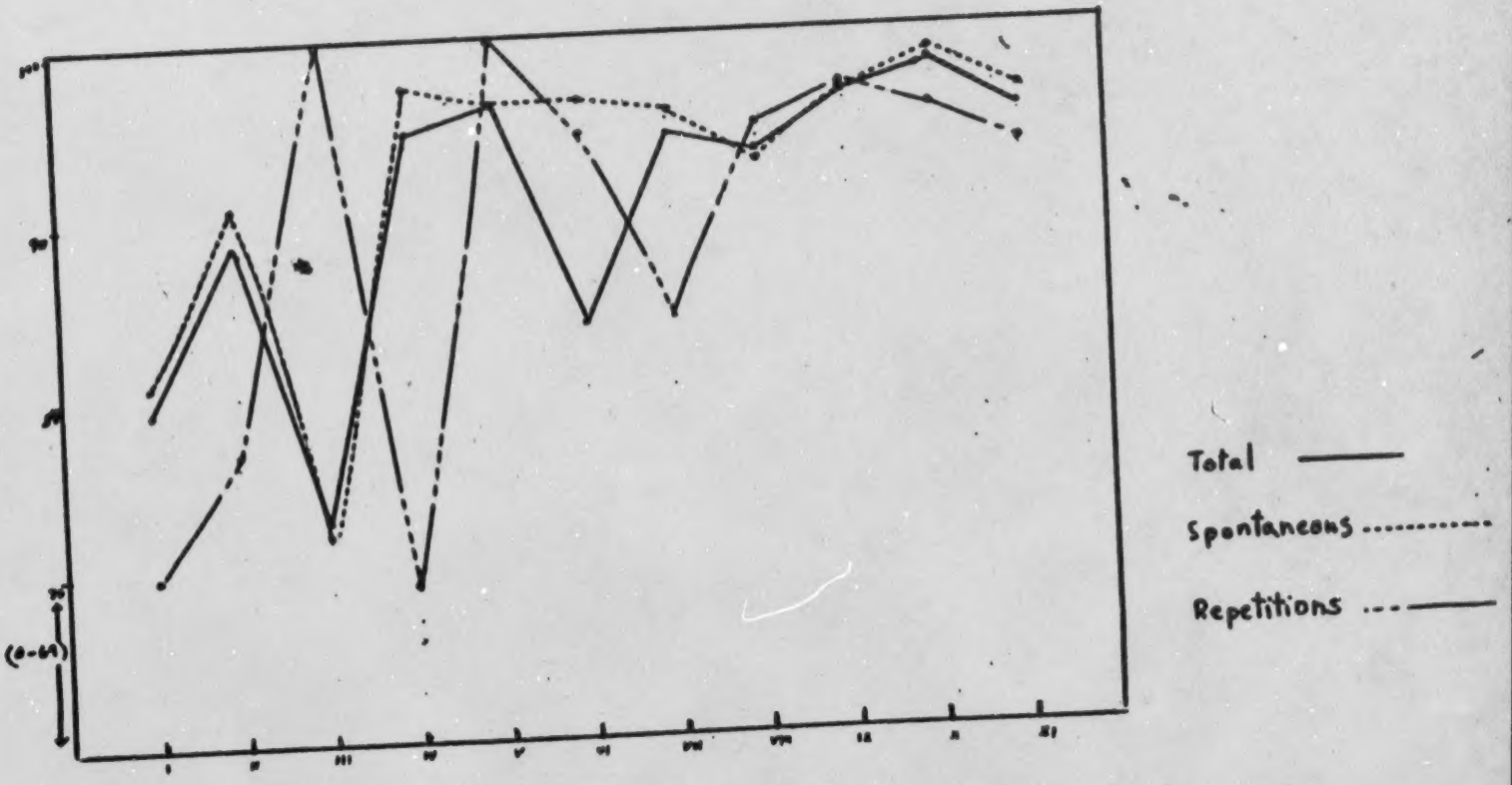
TABLE 12

COMPARISON OF ADRIAN'S SPONTANEOUS AND REPETITIONS VERB SYSTEMS

	TAPE										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
TOTAL Verb forms	134	157	77	38	195	289	290	233	292	253	232
"Appropriate"	106	139	56	36	189	281	273	217	281	248	221
Percentage	79.1	88.5	72.7	94.7	96.9	96.2	94.1	93.1	96.2	98.0	95.2
SPONTANEOUS verb forms	110	131	75	35	164	218	253	194	231	208	186
"Appropriate"	90	119	54	34	158	213	242	180	222	205	178
Percentage	81.8	90.8	72.0	97.1	96.3	96.3	95.6	92.7	96.1	98.5	96.2
REPETITIONS Verb forms	23	26	2	3	31	71	37	39	61	45	46
"Appropriate"	16	20	2	2	31	68	31	37	59	43	43
Percentage	69.5	76,9	100	66.6	100	95.7	83.7	94.8	96.7	95.5	93.4
Total verb forms	134	157	77	38	195	289	290	233	292	253	232
Spontaneous	110	131	75	35	164	218	253	194	231	208	186
percentage	82.1	83.4	97.4	92.1	84.1	75.4	87.2	83.3	79.1	82.2	80.1
Repetitions	23	26	2	3	31	71	37	39	61	45	46
percentage	17.9	16.6	2.6	7.9	15.9	24.6	12.8	16.7	20.9	17.8	19.8

FIGURE 5

ACCURACY OF VERB SYSTEM - ADRIAN



We can observe that the accuracy index of the repetitions set is lower in 7 of the tapes, and higher only in 4 tapes. The mean accuracy index for the set of repetitions is 88.4%, the mean for the spontaneous set is 92.1%. This difference was statistically significant (t=2.772, p. .01)

Chart X shows the order of acquisition and appearance of the forms in both sets.

—Chart X —

Throughout the tapes, the set of spontaneous forms was more complex than that of repetitions; it had 13 forms, whereas the set of repetitions included 12. The forms present in both sets were the imperative, first and third singular and first plural present indicative, the first, second and third singular preterit, the first and third singular and first plural periphrastic future, and the third singular subjunctive present. The forms present only in the spontaneous set were the third plural present and preterit. The form present only as a repetition was the third singular future indicative, which was used only in the last tape.

Of the forms present in both sets, the majority appeared initially in the spontaneous set (second and third singular preterit, first singular periphrastic future, third singular periphrastic future, and third singular subjunctive present), only 2 appeared initially as repetitions (first plural present and periphrastic future).

In terms of the acquisition of forms, the spontaneous set was more complex. It had 8 forms, whereas in the set of repetitions, only 5 forms had been acquired. The forms acquired only in the spontaneous set were the third singular preterit and first and third singular periphrastic future. However, more forms were acquired initially as repetitions. The third singular present was the only form acquired initially in the spontaneous set, whereas the first plural present and periphrastic future and the second singular preterit were acquired initially as repetitions.

A discussion of each form follows.

CHART X

ORDER OF APPEARANCE AND ACQUISITION OF SPONTANEOUS AND REPETITIONS VERB FORMS IN ADRIAN

ORDER OF APPEARANCE

Age (months)	Tape	Spontaneous	Repetitions
29	I	Imperative First singular present Third singular present First singular preterit Second singular preterit Third singular preterit Third singular subjunctive present First singular periphrastic future	Imperative First singular present Third singular present First singular preterit
29	II		First plural present First plural periphrastic future
30	II	First plural present	
31	V	First plural periphrastic future	Third singular preterit
31	VI	Third plural present	Second singular preterit
32	VIII	Third singular periphrastic future	
33	IX		First singular periphrastic future Third singular periphrastic future
35	X	Third plural preterit	Third singular subjunctive present
36	XI		Third singular future indicative

CHART X (Continued)

ORDER OF ACQUISITION

Age (months)	Tape	Spontaneous	Repetitions
29	I	Third singular present	
29	II	First singular periphrastic future	First plural present First plural periphrastic future
30	IV	Imperative	Imperative
31	V	First plural periphrastic future	
31	VI	First plural present	Second singular preterit
32	VII	Second singular preterit Third singular preterit	
32	VIII		Third singular present
33	IX	Third singular periphrastic future	

ACQUIRED IN BOTH SETS

Third singular present - This form appeared on both sets from tape I on. It was initially acquired spontaneously in I, in the repetition set in VIII. The majority of the "errors" involved this form, both in terms of frequency and diversity. It was used instead of the imperative, first singular and third plural present in both the spontaneous and repetition sets. Spontaneously it was also used instead of the first plural present, first singular preterit, first singular periphrastic future, first singular and third plural subjunctive present. The forms used instead of it were the third singular present in both sets and the third plural present and present subjunctive in the spontaneous set.

Third singular present

Ad: No prende /It doesn't work./
(I:10)

A: ¿Ese es el tuyo? /Is this yours?
(rA)Ad: Este es mío /This is mine/
(VII:270)

First singular present instead of third singular present

Ad: Echa agua echa piscina /It throws water, throws at pool./
* Ad: ¿Viste? Agua echo agua /Did you see? It throw water./
(VI:98)

Third plural present instead of third singular present

Ad: Que yo, ay, por ella /That I, ah, for her/
Ad: Ay, por ella /Oh, for her/
*Ad: Al monito están coger /The monkey it take./
(VIII:402)

Imperative- This form appeared from I on in both sets. It was acquired simultaneously in both sets in IV. It was used instead of the first singular present and preterit in the spontaneous set.

The forms used instead of it were third singular present and subjunctive present, first singular present and subjunctive present in both sets and the first singular preterit in the spontaneous set.

Imperative

Ad: ¡Mira que lindo! /Look how pretty!/
(IV:35)

M: Dámela /Give it to me./
(rA)Ad: Dámela /Give it to me./
(II:118)

Third singular present instead of imperative

A: Vamos a ponerlo aquí /Let's put it here./
Ad: Sí /Yes/
A: ¿y esto? /And this one?/
*(rE)Ad: Pone allí /Puts it there./
(VIII:6)

First singular subjunctive present instead of imperative

Ad: Pártelo /(You) cut it./
*Ad: Pártelo tú, parta /You cut it you, that you cut./
(I:336)

Ad: Sí, pica /Yes, itches/
A: ¿Que siento aquí? /What do I feel here?/
* Ad: Me pica, levante /It itches, (that you) get up/
(II:165)

First singular preterit instead of imperative

Ad: ¡Llamé Elaine! /Called Elaine:/
Ad: ¡Llamé Elaine! /Called Elaine:/
(III:121)

First singular present instead of imperative

*Ad: Pantalla pongo //Put earring./
A: ¿Pantalla qué? /Earring what?/
Ad: Ponme la pantalla /Put me the earring./
(I:233)

First singular present instead of imperative

* Ad: Llamo (me manda a llamar) /(I) call./
* Ad: Llamo al barco /(I) call the ship./
(VIII:329)

Third singular present subjunctive instead of imperative

Ad: Ya está /It's ready./
A: ¿qué? /What?/
*Ad: Levante /That you get up./
A: Ah, que me levante /Oh, that I get up/
Ad: Sí, pica /Yes, itches/
(II:163)

A: Dile que se pare /Tell it to stand up/
(rB)Ad: Pare /Stand up/
(II:233)

Third singular present subjunctive instead of imperative

*Ad: Pinte tu, ti /That you paint, you/
(VII:462)

First plural present- This form appeared initially and was acquired as a repetition in II. It appeared and was acquired in the spontaneous set in VI. In the spontaneous set it was used instead of the first plural preterit and the third singular present was used instead of it.

First plural present

Ad: Vamos a mami	/Let's go to mom/
A: ¿Donde está mami?	/Where is mom?/
Ad: No sé	/I do not know./
(rA)Ad: ¿Vamos a la playa? (IV: 4)	/Are we going to the beach?/
Ad: Vamos ahí (VI:42)	/Let's go over there/

Third singular present instead of first plural present

* Ad: Va Pestaña (Cataño)	/We goes to Cataño/
* Ad: Va Pestaña	/We goes to Cataño/
A: Vamos para Cataño (VII:196)	/Let's go to Cataño/

Second singular preterit - It appeared initially in the spontaneous set in I but was acquired in VII. As a repetition it appeared later on but was acquired first in VI. It was used in the spontaneous set instead of the third singular preterit.

Second singular preterit

Ad: Viste agua, echó agua (VI:98)	/See water, poured water/
A: ¿La viste corriendo?	/Did you see her running?/
(rA)Ad: ¿Viste? (VII:122)	/Did (you) see?/

Third singular preterit instead of second singular preterit

*Ad:	A llaves, apagó	/The keys (he) turn it off/
Ad:	Préndelo	/Put it on/
(VI:517)		

First plural periphrastic future - This form appeared and was acquired initially as a repetition in II. In the spontaneous set it appeared and was acquired in V. It was always used when required.

First plural periphrastic future

A:	Vamos a buscar la llave	/We are going to look for the key/
Ad:	Busco llave	/I look for the key/
(rA)Ad:	Vamos a buscar la llave	/We are going to look for the key/
(II:181)		
Ad:	Vamos a jugar	/We are going to play/
(V:136)		

PRESENT IN BOTH SETS, ACQUIRED ONLY IN THE SPONTANEOUS SET

Third singular preterit - It appeared initially in the spontaneous set; later on as a repetition in V. It was acquired in the spontaneous set in VII. It was used instead of the first singular preterit in both sets and instead of the second singular preterit and third plural preterit in the spontaneous set only.

The forms used instead of it were the first singular preterit in both sets and the first singular present in the spontaneous set only.

Third singular preterit

Ad:	Se apagó	/It turned off/
(I:3)		

A: ¿Se cayó ella solita? /Did she fall by herself?/
M: ¡Qué blandita es la arena! ¿verdad? /How soft is the sand!/
(rA)Ad: Cayó montaña /The mountain fell/
(V:192)

First singular preterit instead of third singular preterit

*Ad: ¡Ay! Fue que se cayó /Oh! It was that it fell/
(XI:43)

A: Adrián /Adrián
A: ¿No comió? /Did he eat?/
*(rC)Ad: Eh, no comí /Eh, I did not eat/
(IX:182)

First singular present instead of third singular preterit

A: ¿A donde se fue? /Where did he go to?/
*Ad: Meto /I put it into/
(VI:401)

First singular periphrastic future - It appeared initially spontaneously in I and was acquired in II. As a repetition it appeared in IX although it had been required and not used in VI. It was used instead of the third singular periphrastic future in the spontaneous set. The third singular periphrastic future was used instead of it in both sets and the third and first singular present only in the spontaneous set and the third singular subjunctive present only as a repetition.

First singular periphrastic future

Ad: Voy a abrir la puerta /I am going to open the door./
(II:80)

A: ¿Vamos a comprar leche? /Are we going to buy milk?/

Ad: Horita, horita /Later, later/

(rD)Ad: Vamos allí, Elaine a voy a comprar /Let's go there Elaine, I am going to buy/

(IX:459)

Third singular periphrastic future instead of first singular periphrastic future

A: Ay, mira /Oh, look/

* Ad: Va esconder /It is going to hide/

A: ¿A quién? /Who?/

Ad: Yo /I/

(VIII:155)

A: ¿Tú la vas a pintar con crayola? /Are you going to paint it with crayola?/

*(rB)Ad: Pero, pero, pero va a pintar un, uno, con los reyes. /But, but, but.. I goes to paint one, one, with the kings./

(XI:124)

Third singular present instead of first singular periphrastic future

*Ad: Yo a toma una foto /I takes a picture./

(XI:400)

First singular present instead of first singular periphrastic future

A: ¿Vas a comprar pan? /Are you going to buy bread?/

*(rE)Ad: Compro /I buy/

(I:176)

Third singular present instead of first singular periphrastic future

A: ¿Tú lo partes? /Will you cut it?/

Ad: Sí /Yes/

A: ¿Qué tu vas a hacer? /What are you going to do?/

*(rE)Ad: A parta /To cut/

(VI:283)

Third singular periphrastic future - It appeared, used only "inappropriately" in I in the spontaneous set. It was used "appropriately" in VIII and acquired in IX. As a repetition it appeared in IX but was used only "inappropriately" in XI. It was used instead of the first singular periphrastic future in both sets and this same form was used instead of it in the spontaneous set.

Ad: Te va a cantar /It is going to sing for you/

(IX:48)

A: ¿Quién va a cantar? /Who is going to sing?/

Ad: Ahí /Over there/

(rA)Ad: Te va a cantar ahí /It is going to sing for you over there./

(IX:11)

PRESENT IN BOTH SETS, NOT ACQUIRED IN EITHER

First singular present - It appeared in both sets from I on. Its accuracy ranged from 33.3% in VII to 100% in XI in the set of repetitions and from 58.6% to 100% in XI in the spontaneous set. In the last two tapes the accuracy in both sets was 100% which seems an indication that it is reaching acquisition. It was used instead of the third singular present in both sets, instead of the first singular periphrastic future as a repetition and of the imperative and third singular preterit in the spontaneous set only. The forms used instead of it were the third singular present in both sets and the first singular subjunctive present as a repetition, and the imperative in the spontaneous set.

Ad: Tengo sucio en la mano /I have dirt in my hand/

(I:13)

A: ¿Te vas? /Are you going?/

(rD)Ad: Me voy /I go/

(I:280)

Third singular present instead of first singular present

* Ad:	Quiere mango, quiere	/I want mango/
A:	¿Tú quieres mango?	/Do you want mango?/
Ad:	Mango,	/Mango/
(I:332)		

A:	¿Tú lo partes?	/Do you cut it?
Ad:	No, yo	/No, me
A:	Yo ¿que?	/Me, what?/
*(rB) Ad:	Lo parte yo	/Me cuts it/
(I:341)		

First singular subjunctive present instead of first singular present

M:	¿Tú aguantas esto?	/Do you hold this?/
*(rE) Ad:	Yo aguante esto	/I hold this/
(II:149)		

First singular preterit - It appeared in both sets from tape I on. Its use varied from being always used as required, used only "inapropriately", to not being used as required in both sets. In the last two tapes its accuracy was 100% in both sets, an indication that it seems to be reaching acquisition. It was used instead of the third singular preterit in both sets and of the first plural preterit as a repetition, and instead of the imperative spontaneously. The forms used instead of it were the third singular preterit in both sets, and the imperative and third singular present in the spontaneous set only.

A:	¿Fuiste al colmado?	/Did you go to the market?/
(rD) Ad:	Sí, fuí al colmado	/Yes, I went to the market/
(I:166)		

Ad:	Nadé	/I swam/
(I:451)		

Third singular preterit instead of first singular preterit

A: ¿Qué te pasó Adrián? /What happened, Adrián?/
*Ad: Que me cayó /That me fell/
(I:162)

A: ¿Qué la despertó? /What woke her up?/
Ad: Así, uh, despertó /Like that, woke up/
Ad: Ah, desperté /Oh, I woke up/
* (rB) Ad: Ah, despertó /Oh, she woke up/
(VII:193)

Imperative instead of first singular preterit

A; ¿Y esto de quien es? /And what is this?/
* Ad: Adrián, cómelo /Adrián (you) eat it/
(IX:385)

Third singular present instead of first singular preterit

*Ad: Me cayó /(I) Me fell/
(IV:44)

PRESENT ONLY IN SPONTANEOUS SET

Third singular present subjunctive - It appeared initially in the spontaneous set in I, but from then on was used only "inappropriately". As a repetition, it was also used only "inappropriately". It was used instead of the imperative in both sets, and instead of the first singular periphrastic future as a repetition.

Ad: Dile que cante /Tell her to sing/
(I:6)

Third plural present- It appeared initially in VI and from then on was used when required in the majority of the instances, However it was not acquired. As a repetition it was required but not used. It was used

instead of the third singular present. The forms used instead of it were the third singular present in both sets and the third singular preterit in the spontaneous set only.

Ad: ¡Ay!, mira están dur- /Look, they are sleeping/
miendo.
(VI: 194)

Third plural present instead of third singular present

*Ad: A monito están cogen /Ah, the monkeys are taken/
(VII: 402)

Third singular present instead of third plural present

A: ¿Para qué es esto Adrián? /What is this for, Adrián?
Ad: Por ahí, por ahí sale los retratos /Through there, through there the pictures comes out/
(XI: 417)

A: Están durmiendo /They are sleeping/
(rC) Ad: Está durmiendo /Is sleeping/
(VI: 195)

Third plural preterit - It was used "appropriately" initially in X, and used in some of the instances in which it was required in XI. It had initially been required but not used in VIII.

A: ¿Te la comistes? /Did you eat them?/
Ad: Acabaron /They are gone/
(X:385)

Third singular preterit instead of third plural preterit

Ad: Las pepitas /The seeds/
A: ¿Dónde están las pepitas? /Where are the seeds?/
* Ad: Se fue /Its gone/
(VIII:22)

PRESENT ONLY IN SET OF REPETITIONS

Third singular future indicative - It appeared only once, as a repetition in XI.

Ad: ¿Tú sabes quién es Michel? /Do you know who Michel is?/
A: No, ¿quién es Michel? /No, who is Michel?/
Ad: Una, una amiguita mía /A, a friend of mine./
A: ¿Y donde está tu amiguita? /And..where is your friend?/
(rD)Ad: Será así, otro día me va a enseñar los juguetes /It will be, another day that she will show me the toys/
(XI:383)

FORMS REQUIRED, BUT NOT USED

First plural preterit- It was required as a repetition in X, in the spontaneous set in XI. The forms used instead of it were the first singular preterit as a repetition, and the first singular present spontaneously.

First plural present instead of first plural preterit

* Ad: Sí, pero, pero, pero anoche vamos a la playa /Yes, but, but, but last night we go to the beach/
(XI:88)

First singular preterit instead of first plural preterit

A: ¿Anoche fuiste a la montaña? /Did you go to the mountain yesterday/

Ad: Sí /Yes/

A: ¿Y qué tu hiciste en la montaña? /And, what did you do in the mountain?/

(rC)Ad: Sí, tú, yo, fuí y papá /Yes, you, I , went and daddy./

(XI:331)

FORMS USED ONLY "INAPPROPRIATELY"

First singular subjunctive present - It appeared in both sets in I used "inappropriately". From then on, it was required but not used and used only "inappropriately". The form used instead of it was the third singular present. It was used instead of the imperative in both sets, and instead of the first singular present as a repetition.

Third singular present instead of first singular subjunctive present

* Ad: Que no te dispara /That it does not fire/

(X:304)

First singular subjunctive present instead of imperative

*Ad: Monta aquí, monte /Climb here, that (I)climb/

(V:258)

First singular subjunctive present instead of first singular present

M: ¿Tú aguantas esto? /Do you hold it?/

(rE)Ad: Yo aguante esto /I (that) hold this/

(II-149)

Third plural subjunctive present - It was used only "inappropriately" in the spontaneous set in VII, although it had been required and not used in II. The form used instead of it was the third singular present, and it was used instead of this same form.

Third singular present instead of third plural subjunctive present

A:	Adrián ¿qué hago?	/Adrián, what should I do?/
* Ad:	No se cae (que no las eche ahí)	/It won't fall(that I dont put them there)

(II-19)

Third plural present subjunctive instead of third plural present

A:	En la nueva escuela que vamos a hacer, vamos a tener un mural bien lindo hecho por los niños	/In the new school that we will build, we will have a very pretty mural, made by the children/
*Ad:	que niño estén	/That children will be

(VII:285)

DIFFERENTIAL INFLUENCE OF REPETITIONS

Table 13 lists separately the frequency for each category of the repetitions. Figure 6 illustrates the trend of "inappropriate" repetitions. When we combine the "inappropriate" repetitions (B,C and E) their percentage had an increasing trend up to tape VII at which point it decreased.

—Table 13—

—Figure 6—

"APPROPRIATE" REPETITIONS

Positive influence (A) - This type of repetitions occurred in the majority of the forms Adrián repeated. It included the imperative, the first and third singular present, first plural present and second and third singular preterit, the first and third singular periphrastic future and the first plural periphrastic future. The positive influence is more evident in

TABLE 13

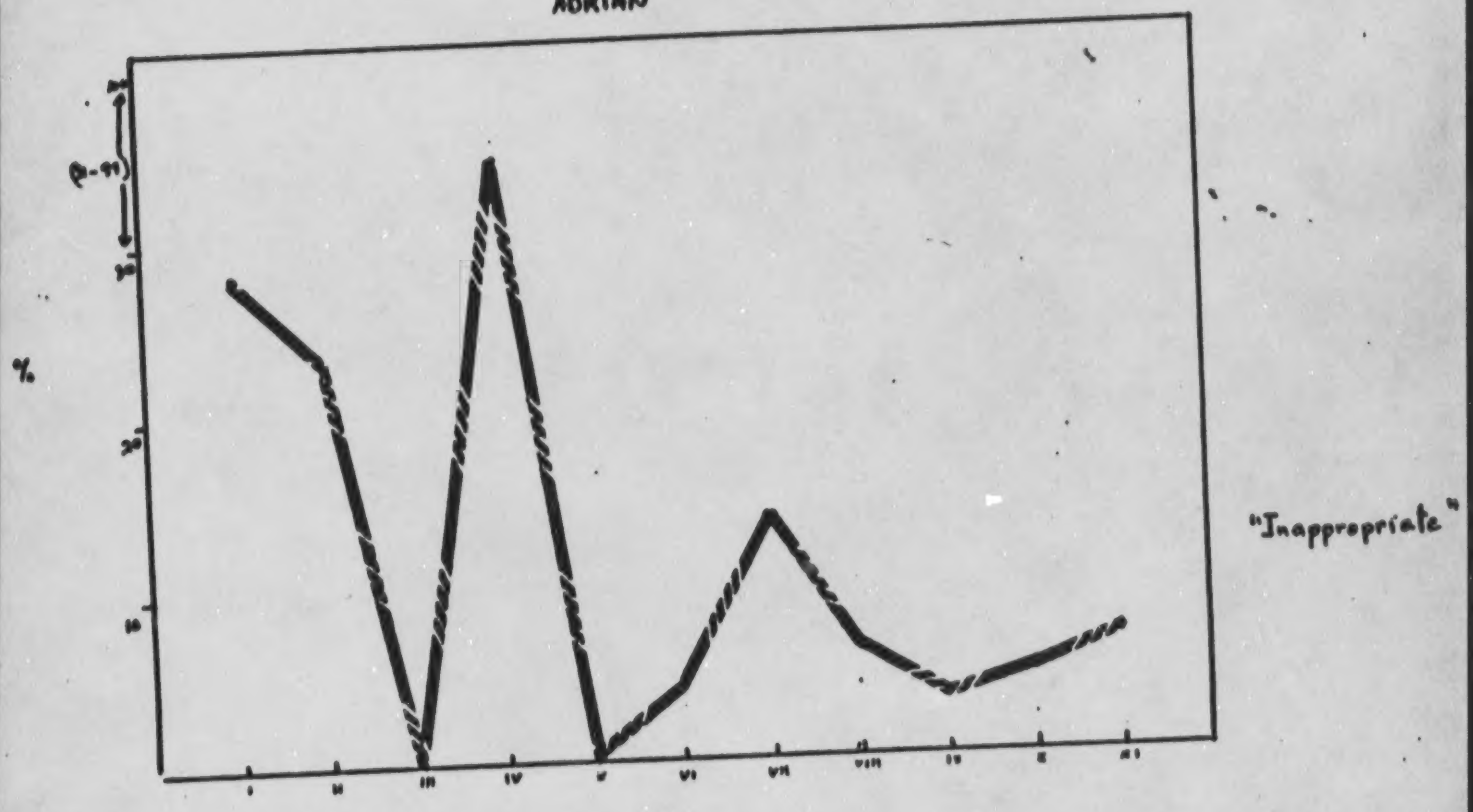
TYPE OF REPETITIONS BY ADRIAN

	TAPE										
Type of repetition	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Positive influence (A)	6	13	2	2	27	47	26	18	44	28	18
percentage	24.0	50.0	100	66.7	87.1	63.5	72.2	54.5	72.1	63.6	40.0
Negative influence (B)	0	5	0	1	0	0	4	0	0	0	0
percentage	0	19.2	0	33.3	0	0	11.1	0	0	0	0
Imperviousness of system (C)	6	0	0	0	0	1	0	0	2	0	3
percentage	24.0	0	0	0	0	1.4	0	0	3.3	0	6.7
Firm knowledge (D)	12	7	0	0	4	24	5	13	15	14	24
percentage	48.0	26.9	0	0	12.9	32.4	13.9	39.4	24.6	31.8	53.3
No influence (E)	1	1	0	0	0	2	1	2	0	2	0
percentage	48.0	26.9	0	0	0	2.7	2.8	6.1	0	4.5	0
"Appropriate" (A+D)	18	20	2	2	31	71	31	31	59	42	42
percentage	72.0	76.9	100	66.7	100	95.9	86.1	93.9	96.7	95.4	93.3
"Inappropriate" (B+C+E)	7	6	0	1	0	3	5	2	2	2	3
percentage	28.0	23.1	0	33.3	0	4.1	13.9	6.1	3.3	4.5	6.7

FIGURE 6

PERCENTAGE OF "INAPPROPRIATE" REPETITIONS

ADRIAN



TAPE 2

the first plural present and periphrastic future, which appeared initially as this type of repetition.

Third singular present - See VII:270, page 63

Imperative - See II:118, page 64

First plural present - See IV:4, page 66

Second singular preterit - See VII:122, page 66

First plural periphrastic future - See II:181, page 67

Third singular preterit - See V:192, page 68

Third singular periphrastic future - See IX:11, page 71

Firm knowledge (D)-This type of repetition occurred in most of the forms present in the repetition sets. These include the imperative, first and third singular and third plural present, first, second and third singular preterit, first singular periphrastic future, third singular subjunctive present and third singular future indicative. This last form is difficult to explain as it had not appeared either spontaneously or as a positive influence type of repetition.

First singular periphrastic future - See IX:459, page 69

First singular present - See I:280, page 71

First singular preterit - See I:166, page 72

Third singular future indicative - See XI:383, page 75

"INAPPROPRIATE" REPETITIONS

Negative influence (B) - This type of "error" occurred with the first singular instead of the third singular present, the first singular subjunctive present instead of the imperative, the third singular periphrastic future instead of the first singular periphrastic future, the third singular preterit instead of the first singular present and the third singular subjunctive present instead of the imperative. All of these "errors" were also made spontaneously.

Third singular present instead of first singular present - See I:341, page 72

First singular preterit instead of third singular preterit - See IX:182 page 68

Third singular periphrastic future instead of first singular periphrastic future. See XI:124, page 69

Imperviousness of the system (C)- This type of "error" occurred with the third singular instead of the first singular present; the third singular instead of the first plural present, the first instead of the third singular preterit, the third singular present instead of the third plural present and the first singular instead of the first plural preterit. These "errors", with the exception of the last one also occurred in the spontaneous set.

First singular instead of the third singular present - See VII:160, page

Third singular subjunctive present instead of imperative - See II:233, page 65

Third singular present instead of third plural present - See VI:195, page 74

Third singular preterit instead of first plural preterit - See XI:331, page 76

Third singular present instead of first singular present - See I:341, page 72

First singular preterit instead of first plural preterit - See XI:331, page 76

No influences (E)- This was the most diverse type of "error" for Adrián. It is also the type of "error" that occurred more frequently only as a repetition. These include the third singular subjunctive present instead of the first singular periphrastic future, the first singular present instead of the first singular periphrastic future and the first singular subjunctive present instead of the first singular present. The other "errors" of this type, which also appeared spontaneously, were with the third singular present instead of the third plural present and the imperative, and the third singular subjunctive present instead of the imperative.

Third singular present instead of imperative - See VIII:6, page 64

Third singular present instead of first singular periphrastic future - See VI:283, page 70

First singular present instead of first singular periphrastic future - See I:176, page 70

First singular subjunctive present instead of first singular present - SeeII:149, page 72

Third singular present instead of third plural present - See VI:195, page 74

SUMMARY OF ADRIAN'S VERB SYSTEM DEVELOPMENT

During the 8 months in which Adrián's speech was taped, his verb system developed from one which included 9 forms in 5 tenses to one which had 14 forms in 6 tenses. His system at the initial taping was quite complex; the only tense which was subsequently added was the future indicative, which was only used once by him, in the last tape.

In the tenses he used initially, the first and third singular person forms were included in the present and preterit, the first singular in the periphrastic future, and the third singular in the subjunctive present.

Adrián's system was complex; however, its accuracy was the lowest for the children taped. His system included many "errors", both in terms of diversity (29 types overall) and in terms of frequency. Almost all of the forms he used "appropriately" he also used "inappropriately", at least once.

In comparing the spontaneous and repetition sets, we find that the spontaneous set is more complex, both in terms of forms present and acquired; that more forms were introduced in the spontaneous set; and that the majority of the "errors" occurred only in the spontaneous set. This, however, needs to be interpreted in view of the frequency of the repetitions, as overall Adrián was the child whose set of repetitions was smallest.

The set of repetitions, however, was significantly less accurate, and more forms were acquired initially in the set of repetitions, although 2 forms were initially introduced as repetitions. Thus, even if he did not repeat verb forms very frequently, he was more likely to make "errors" while repeating verbs, and the repetitions also served for him to acquire forms initially in this system.

Adrián was the child to follow Ginnie in terms of complexity of the verb system both in terms of forms present and acquired, and in age.

VIII ANALYSIS OF JAVIER'S VERB SYSTEM

Javier's speech was taped for 11 months. The data analyzed included 24 tapes, made at more frequent intervals. He was 29 months old when we first taped his speech. By the last tape he was 39 months old.

GENERAL INFORMATION ON VERBS

Some general information about the utterances and verbs included in the analysis is summarized in Table 14. Table 15 illustrates the pattern of development of the verbs Javier used, taking into consideration whether the verbs were present in his spontaneous and/or repetitions sets.

-- Table 14 --

-- Table 15 --

In Javier we can observe that his spontaneous set is more complex, as it had six (6) additional forms. More forms appeared initially spontaneously, although more forms were initially acquired as repetitions.

The complexity of his verb system throughout the tapings increased, from seven (7) type forms present in the first tape to a total of nineteen (19) forms (used and required) throughout the last taping, and one form which had been contextually required, but not used.

The three moods were present: imperative, subjunctive and indicative. In the imperative, only the singular form was used. In the indicative, the present, preterit, periphrastic future and imperfect were used. In the subjunctive, only the present tense was used. The pattern of appearance and acquisition of forms, by tense, follows.

In the present indicative tense the third singular was used in I and acquired in VIII. The first singular was used in I, but had not been acquired by the last tape. The first plural appeared and

TABLE 14

GENERAL INFORMATION ON VERBS ANALYZED IN JAVIER

	TAPE																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
Number of utterances analyzed	103	106	56	175	33	34	135	126	113	207	294	262	95	245	205	335	649	526	131	454	331	345	175	169
Number of personal forms analyzed	35	36	19	76	11	13	58	66	48	111	182	117	24	132	101	154	317	260	75	189	150	137	60	95
"Appropriate"	36	36	19	76	11	13	58	66	48	111	182	117	24	132	101	154	305	254	75	185	146	135	59	94
Accuracy percentage	100	97.2	94.7	97.4	90.9	100	91.4	95.2	100	99.1	97.8	94.0	100	97.0	98.0	98.1	96.2	97.7	100	97.9	97.3	98.5	98.3	98.9
Regularisations	0	0	0	2	0	0	2	0	2	0	1	0	0	1	1	0	16	8	1	1	3	1	1	1
																	14	10	8	15	12	13	10	11
																	14	10	8	15	12	12	10	11
Type forms used	7	5	4	8	4	5	8	6	7	9	10	11	7	9	10	12	0	1	0	0	0	0	0	0
Type forms required, not used	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
Type forms used, not required	0	1	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0

TABLE 15

DEVELOPMENT OF JAVIER'S VERB SYSTEM

	TAPE																							
FORM	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
Imperative	SR	SR	(S)R	S	-	SR	S	SR	SR	SR	SR	SR	S	SR	SR	SR	SR	SR	SR	SR	SR	S	SR	SR
Present indicative																								
First singular	R	SR	S	SR	SR	SR	SR	SR	SR	S	SR	SR	SR	SR	SR	SR	SR	SR	S(R)	SR	SR	SR	SR	S
Third singular	S(R)	S	S	SR	S	S	SR	S(R)	SR	S	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	R	S	-	S
First plural	-	-	-	-	-	-	(S)	-	(R)	-	SR	-	-	-	S	S	S	S	S	SR	(S)iR	S	-	S
Third plural	S	-	-	nR	-	-	iSR	-	-	S	SR	R	SR	-	-	SnR	S	S(R)	-	nSR				
Preterit indicative																								
First singular	S	-	-	S	-	S	SR	S	S	SR	SR	SR	S(R)	SR	S	(S)R	SR	SR	SR	SR	SR	SR	SR	SR
Second singular	-	-	-	(R)	-	-	-	-	-	R	(S)	SR	-	S	S	S	S	-	S	SR	SiR	SR	-	-
Third singular	S(R)	SR	S	S	S	(S)	SR	S	R	SR	SR	SiR	-	S	S	S	SR	S	S	S	S	SR	-	SR
First plural	-	-	-	-	-	-	-	-	-	-	-	-	-	(S)	S	-	S	-	-	S	-	-	-	-
Third plural	-	-	-	nS	-	-	nR	-	-	iR	S	-	-	S	-	S	(S)R	-	-	-	S	S	-	-
Periphrastic future																								
First singular	(S)	S	-	S	-	-	S(R)	SR	S	SR	S	S	SR	SR	SR	R	SR	SR	SR	SR	SR	SR	SR	SR
Third singular	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(S)	S	-	S	S	-	S	S
First plural	-	-	-	-	-	-	-	-	-	(S)	-	(R)	S	-	R	R	SR	-	-	S	-	S	-	-
Subjunctive present																								
First singular	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	S	-	S
Third singular	-	iS	-	S	-	R	-	-	-	-	-	iS	-	-	iS	-	SR	nS	-	S	iR	S	S	RS
Third plural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	S	-
Imperfect indicative																								
First singular	-	-	-	-	-	-	iS	-	-	-	-	(S)	S	-	-	-	-	S	-	S	-	-	S	-
Third singular	-	-	-	-	-	-	-	-	-	-	S	-	-	-	-	S	-	-	-	-	R	-	-	-
Third plural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	nS	-	-	-	-	-	-	-	-

was acquired in VII, from that tape on it was always used as required. The third plural appeared in I and was acquired in XXI.

In the preterit indicative, the first singular appeared in I and was acquired in XVI. The third singular also appeared in I and was acquired earlier, in VI. The second singular appeared and was acquired in IV. Of the plural persons, the first appeared and was acquired in XIV; the third appeared in XI and was acquired in XVII.

In the periphrastic future tense, the first singular appeared and was acquired in I. The first plural appeared and was acquired in X. The third singular appeared and was acquired in XVII.

In the imperfect indicative tense, the first person to appear was the first singular, "inappropriately" in VII and "appropriately" from XII on. The third singular appeared in XI. The third plural was required, although he did not use it, once, in XVI.

In the subjunctive present tense, the third singular person appeared initially, used only "inappropriately", in II, and was used "appropriately" in VI. The first singular appeared in XXII. The third plural appeared only once, in XXIII.

Chart XI shows the order of appearance and acquisition of the verb forms in Javier's system.

-- Chart XI --

The order of acquisition does not coincide with the order of appearance, with some forms being acquired when they appeared initially, and other forms being used, but not to the point of reaching acquisition by the last tape. As an illustration of this point, we can observe the development of the first singular. It appeared in the initial tape, when he was 29 months old, but had not reached the point of being acquired by the last tape, made when he was 36 months old. Of the 19 forms present in his system, only 11 had been acquired by the last tape.

CHART XI

ORDER OF APPEARANCE AND ACQUISITION OF VERB FORMS IN JAVIER

Age	Tape	Appearance	Acquisition
29	I	Imperative First singular present Third singular present Third plural present First singular preterit Third singular preterit First singular periphrastic future	Imperative First singular periphrastic future
32	IV	Second singular preterit Third singular subjunctive present	Second singular preterit
33	VI		Third singular preterit
33	VII	First plural present	First plural present
33	VIII		Third singular present
33	X	First plural periphrastic future	First plural periphrastic future
33	XI	Third plural preterit	
33	XII	First plural preterit	First plural preterit
34	XIII		First singular preterit
34	XVI	Third singular imperfect indicative	
35	XVII	Third singular periphrastic future	Third plural preterit Third singular periphrastic future
36	XX	First singular imperfect indicative	
38	XXII	First singular subjunctive present	
38	XXIII	Third plural subjunctive present	

For Javier, in the tenses he used from the first tape on (present and preterit indicative), the first and third singular appeared simultaneously. The first singular appeared initially in the periphrastic future, and the third singular in the subjunctive present and imperfect indicative. In these last two tenses, the first and third singular forms are morphologically identical.

In terms of acquisition of forms, however, in both the present and preterit indicative, the third singular person was the form acquired initially.

ANALYSIS OF THE "ERRORS"

In general, Javier's system was quite accurate. Thus, there are relatively few "errors", both in terms of type of "errors" and in the frequency in which they appear. Chart XII lists the "errors" made by Javier.

--Chart XII--

As with the other children, the forms most frequently generalized to other forms were third singular persons. In fact, in all of the tenses he used, this person was generalized to other persons. The most frequent "error" was the use of the third singular instead of the first singular present form, which is consistent with the findings for the other children. The third singular present person was the form used more frequently instead of other persons, including the imperative, the first singular present, and the third plural present in both the spontaneous and repetitions set, and instead of the third singular subjunctive present as a repetition.

The other forms used instead of other forms were the third plural present and preterit, the first singular present and the first singular imperfect indicative.

In Javier we can observe that there were various "errors" in which both forms involved were used instead of the other. For example, the third singular present was used instead of the first singular and third plural present, and the third singular subjunctive present; these three forms were also used instead of the third singular present.

COMPARISON OF SPONTANEOUS AND REPETITIONS SETS

Table 16 compares the accuracy of the total verb system with that of the verbs in the spontaneous and repetitions sets. These differences are illustrated in Figure 7.

--Table 16 -- --Figure 7 --

CHART XII

JAVIER'S "ERRORS"

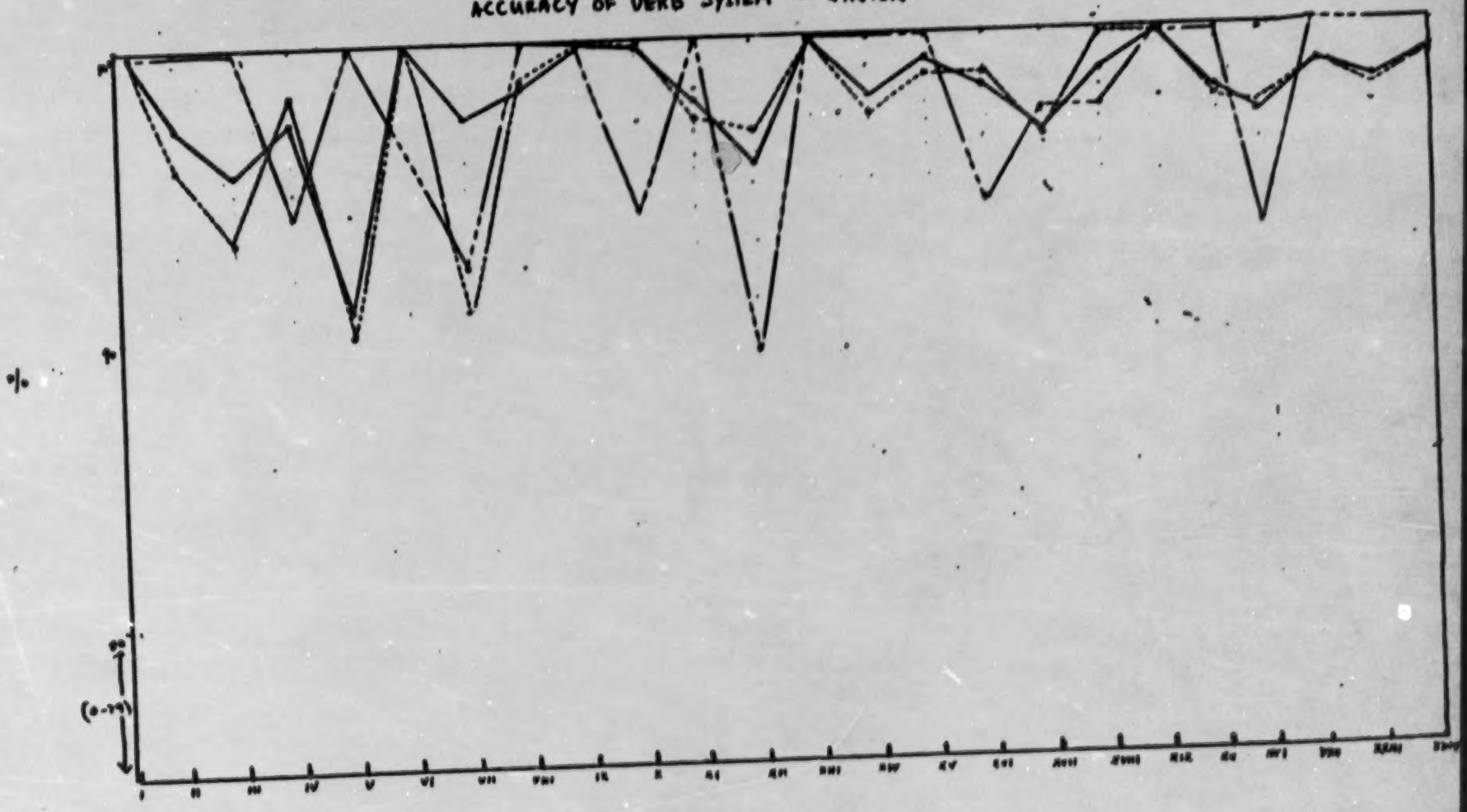
Form used	Form required
Third singular present	First singular present Third plural present Third singular subjunctive present Imperative
Third singular preterit	Third plural preterit First singular preterit
Third singular subjunctive present	Imperative Third singular present
First singular present	Third singular present
Third plural present	Imperative Third singular present
Third singular imperfect indicative	Third plural imperfect indicative
Third singular periphrastic future	First singular periphrastic future
First singular imperfect indicative	First singular preterit

TABLE 16
COMPARISON OF JAVIER'S SPONTANEOUS AND REPETITIONS VERB SYSTEMS

	TAPE																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
TOTAL VERB FORMS	35	36	19	76	11	13	58	66	48	111	182	117	24	132	101	154	317	260	75	189	150	137	54	95
"Appropriate"	35	35	18	74	10	13	53	63	48	110	178	110	24	128	99	151	304	254	75	185	146	135	53	94
Percentage	100	97.2	94.7	97.4	90.9	100	91.4	95.5	100	99.1	97.8	94.0	100	97.0	98.0	98.1	96.2	97.7	100	97.9	97.3	98.5	98.1	98.9
SPONTANEOUS verb forms	30	23	15	59	10	10	43	63	38	94	139	91	14	109	86	137	278	224	65	159	118	106	43	80
"Appropriate"	30	22	14	58	9	10	39	60	38	94	135	88	14	105	84	135	267	219	65	155	118	104	42	79
Percentage	100	95.8	93.3	98.3	90.0	100	90.7	95.2	100	100	97.1	96.7	100	96.3	98.8	98.5	96.0	97.8	100	97.5	100	98.5	97.8	98.8
REPETITIONS Verb forms	5	13	4	17	1	3	15	3	10	17	43	26	10	23	15	17	39	36	10	30	32	31	11	15
"Appropriate"	5	13	4	16	1	3	14	3	10	16	43	22	10	23	15	16	37	35	10	30	28	31	11	15
Percentage	100	100	100	94.1	100	100	93.3	100	100	94.1	100	84.6	100	100	100	94.1	97.9	97.3	100	100	97.5	100	100	100
Total verb forms	35	36	19	76	11	13	58	66	48	111	182	117	24	132	101	154	317	260	75	189	150	137	54	95
Spontaneous	30	23	15	59	10	10	43	63	38	94	39	91	14	109	86	137	278	224	65	159	118	106	43	80
percentage	85.7	63.9	78.9	77.6	90.9	76.9	74.1	95.5	79.2	84.7	74.2	77.8	58.3	82.6	85.0	89.0	87.7	86.2	86.7	84.1	78.7	77.4	79.6	84.2
Repetitions	5	13	4	17	1	3	15	3	10	17	43	26	10	23	15	17	39	36	10	30	32	31	11	15
percentage	14.3	36.1	21.1	22.4	9.1	23.1	25.9	4.5	20.8	15.3	25.8	22.2	41.7	17.4	14.9	11.0	12.3	13.3	15.9	15.9	21.3	22.6	20.4	15.8

FIGURE 7

ACCURACY OF VERB SYSTEM - JAVIER



As mentioned before, Javier's system was quite accurate. The total verb system's accuracy ranged from a low of 90.9% in V to 100% in various tapes, with the mean accuracy being 97.3%. The accuracy percentage of the spontaneous and repetitions sets was equal in six of the tapes, larger in the repetitions sets in 12 of the tapes, and larger in the spontaneous set in only 6 of the tapes. This is markedly different from the other children in which the set of repetitions was less accurate than the spontaneous set. The mean accuracy for the repetitions was 98.0%, for the spontaneous set it was slightly lower, 97.4%. This was not a statistically significant difference.

Chart XIII shows the order of appearance and the order of acquisition of the verb forms in both sets.

---Chart XIII---

Throughout the tapings, the set of spontaneous forms was larger than the set of repetitions, both in terms of forms present and forms acquired. In the spontaneous set, 18 forms had appeared, whereas in the set of repetitions there were only 13. The majority of the forms either appeared simultaneously in both sets or appeared initially in the spontaneous set. The third singular preterit and present, and the imperative verb forms appeared simultaneously in both sets. The third and first plural present, third plural preterit, first singular preterit, and the first singular and plural periphrastic future appeared initially in the spontaneous set. The only forms which appeared initially as repetitions were the second singular preterit and the first singular present.

The comparison between the sets in terms of acquisition shows a different pattern. Of the forms present in both sets, the majority (6) were acquired initially as repetitions (first, second and third singular preterit, and third singular and plural present); whereas 3 were acquired initially in the spontaneous set (first singular and plural periphrastic future and third plural present).

It should be noted that, in general, the percentage of verbs that Javier repeated was low, ranging from a high point of 41.7% in XII to a low of 4.5%,

8 64

CHART XIII

ORDER OF APPEARANCE AND ACQUISITION OF SPONTANEOUS AND REPETITIONS FORMS IN JAVIER

ORDER OF ACQUISITION

Age	Tape	Spontaneous	Repetitions
29	I	First singular periphrastic future	Third singular present Third singular preterit
31	III	Imperative	
32	IV		Second singular preterit
33	VI	Third singular preterit	
33	VII	First plural present	First singular periphrastic future
33	VIII	Third singular present	
33	IX		First plural present
33	X	First plural periphrastic future	
33	XI	Second singular preterit	
33	XII	First singular imperfect indicative	First plural periphrastic future
33	XIII		First singular preterit
34	XIV	First plural preterit	
34	XVI	Third singular preterit	
35	XVII	Third plural preterit Third singular periphrastic future	
35	XVIII		Third plural present
36	XIX		First singular present
36	XXI	Third plural present	

CHART XIII continued

ORDER OF APPEARANCE

Age	Tape	Spontaneous	Repetitions
29	I	Imperative Third singular present Third plural present First singular preterit Third singular preterit First singular periphrastic future	Imperative First singular present Third singular present Third singular preterit
29	II	First singular present	
32	IV	Third singular subjunctive present	Second singular preterit
33	VI		Third singular subjunctive present
33	VII	First plural present	Third plural present First singular periphrastic future First singular preterit
33	IX		First plural present
33	X	First plural periphrastic future	
33	XI	Second singular preterit Third singular imperfect indicative Third plural preterit	
33	XII	First singular imperfect indicative	First plural periphrastic future
34	XIV	First plural preterit	
35	XVII	Third singular periphrastic future	Third plural preterit
36	XXI		Third singular imperfect indicative

CHART XIII continued

ORDER OF APPEARANCE

Age	Tape	Spontaneous	Repetitions
38	XXII	First singular subjunctive present	
38	XXIII	Third plural subjunctive present	

with the mean being 19.2%

A discussion and examples of each verb form present in his system follows.

ACQUIRED IN BOTH SETS

Third singular present - It appeared in both; in tape I it was acquired as a repetition in I and spontaneously in VIII. It was used as required in the majority of instances. In Javier we find that there are a few instances in which this form was not used as required, different from the other children. The forms used instead of it were the third singular subjunctive present and the first singular present, spontaneously. In the repetitions set the third plural present was used instead of it. As with the other children this form was used instead of most other forms: first singular present, third plural present and imperative on both sets and instead of third singular subjunctive present only as a repetition.

J: No se rompe /(It) does not break./
(I:47)

S: Esto es un dulce /This is a candy./
(rA)J: Esto es un dulce /This is a candy./
(I:20)

Third plural present instead of third singular present

*J: Mira sabe que un carrito son bombero /Look, you know that a car are firemen./

Third singular subjunctive present instead of third singular present

* J: Y a ti, no te falte /And to you, that it does not lack./

First singular present instead of third singular present

* J: A vengo papá /(I) come father./
(V:33)

First plural present- It appeared and was acquired initially in the spontaneous set in VII. As a repetition it appeared and was acquired in IX. From then on it was always used as required.

First plural present

J: Ah, vamos /Oh! Let's go./
(XI:245)

S: Y ahora, ¿Qué hacemos? /And now, what do we do?/
(rA)J: ¿Qué hacemos? /What do we do?/
(IX:41)

Third plural present- It appeared initially in the spontaneous set in I. It was acquired spontaneously in XXI. As a repetition it appeared initially in VII, although it had been required and not used in IV. As a repetition it was acquired earlier in XVIII. The forms used instead of it were the third singular present in both sets. It was used instead of the imperative in the spontaneous set and instead of third singular present as a repetition.

J: Aquí están los dulces /Here are the candies./
(I:35)

S: ¿De quién son? /Whose are they?/
(rA)J: Son míos /They are mine./
(VII:128)

Third singular present instead of third plural present

S: ¿Le duelen las uñitas a mamá? /Do the fingernails hurt mom?/
*J: Le duele /(It) hurts./
(IV:17)

First singular preterit indicative - It appeared initially in the spontaneous set and was acquired in XVI. Although

it appeared as a repetition in VII it was acquired in XIII before the spontaneous.

From tape XVI on it was always used as required.

The form used instead of it was the third singular preterit in both sets.

First singular preterit

J: Gané, gané yo /(I) won, won I/
(XVI-315)

S: Traga la zanahoria /Swallow the carrot./
(rD)J: Ya lo tragué /I swallowed it./
(VII:41)

Third singular preterit instead of first singular preterit

*J: Aquí me cayó /Here I fells./
(VIII:59)

Second singular preterit - It appeared initially as a repetition in tape IV and was also acquired. In the spontaneous set it appeared and was acquired in tape XI.

M: Y, ¿para qué tú le dijiste a tu hermano que hay un papapo?.. /And.. why you tell your brother that there was a frog?/
(rA)J: Tú dijiste con bebe /You said with baby./
(IV:73)

J: Tú botaste eso /You lost that./
(XI:24)

Third singular preterit - It appeared initially in both sets in

tape I and was acquired initially as a repetition in I. In the spontaneous set it was acquired in VI. From XVIII on it was always used when required. It was used instead of the first singular and third plural preterit in both sets.

J: Se acabó /It finished./
(I:48)

S: ¿Quién se fue? /Who left?/
(rA)J: Se fue /Left./
(I:87)

Third plural preterit- It appeared initially as an "inappropiate" repetition in X; it was used "appropiately" in the spontaneous set in XIV and was acquired in XVII. As a repetition it appeared in XVI and was acquired in XVIII.

The forms used instead of it were the third singular preterit in both sets. It was used instead of the first singular preterit.

Third singular preterit instead of third plural preterit

* J: Ellos compró a mí /They buys me./
(IV-41)

S: No son tuyos /They are not yours./
S: Titi dijo que no eran tuyos /Titi said they are not yours./
* J: Sí, mamá dijo sí, era estos /Yes, mama said yes, and they was this./
(VIII-131)

First singular periphrastic future - It appeared initially in the spontaneous set in I and was acquired then. As a repetition it appeared and was acquired in VII.

The only form used instead of it was the third singular peri-

phrastic future once in XVII.

J: Voy a poner aquí /I am going to put it here./
(I-31)

S: No me sacues un ojo /Don't take away my eye./
S: Ay, ay, ay /Ay, ay, ay/
J: No te voy a sacar /I am not going to take it out/
(VII-77)

Third singular periphrastic future instead of first singular periphrastic future.

*J: Ahorita va a echar arena en carro /later I goes to put sand in the car./

(XVII-599)

First plural periphrastic future - It was used and acquired initially in the spontaneous set in X. As a repetition it was used and acquired in XII.

First plural periphrastic future

J: Vamos a verlo /Let's go see it./
(XIII-37)

S: Vamos a hablar /We are going to talk./
(rA)J: Vamos a hablar /We are going to talk./
(XII:2)

PRESENT IN BOTH SETS, ACQUIRED ONLY IN SPONTANEOUS

Imperative - It appeared in both sets (spontaneous and repetition) in tape I. It was acquired in the spontaneous set in III, at which point it had seemed to be acquired in the set of repetitions, but its accuracy percentage dropped to 40% in XXI, thus making it not to be acquired. The third singular present and the third singular subjunctive present were used in both

sets instead of it; the third plural present was used instead of it in the spontaneous set.

J: Mira ya a Titi /Look at Titi./
(I-2)

S: Bótalo en la basura /Throw it away./
(rA) J: Y bota carro en la basura /And throw the car in the garbage./
(I-97)

Third plural present instead of imperative

*J: Soplan /They blow./
(Pidiendo a Sara que lo haga) (Asking Sara to do it.)
(XI:16)

Third singular present instead of imperative

* J: Ah!, pues hácelo /Ah!, then you do it./
(XXI-277)

Third singular subjunctive present instead of imperative

*J: Tome /That you take)
(II-24)

S: No me atrevo /I don't dare./
(rE)* J: Si, si te atreva /Yes, yes, that you dares./
(XVII-630)

First singular imperfect indicative - This form appeared and was acquired in XII. It had been used "inappropiately" instead of the third singular preterit in tape VII.

J: Yo iba a pegarle así /I was going to hit it like this./
(XII:107)

PRESENT IN BOTH SETS, ACQUIRED ONLY IN REPETITIONS

First singular present indicative - It appeared as a repetition in I, spontaneously in II. It was acquired only as a repetition in tape XIX. In the spontaneous set its accuracy percentage dropped to 85.5% in tape XXIII, thus it was not acquired.

It was used instead of the third singular present indicative in the spontaneous set. The third singular present was used instead of it in both sets.

J: Quiero bailar /(I) want to dance./
(II:8)

S: ¿Tú me ayudas? /Will you help me?/
(rD)J: Yo ayudo /I help./
(XIX:5)

Third singular present instead of first singular present

S: Y no quieres cumpleaños /And, don't (you) want a birthday./
J: No /No/
S: ¿Por qué? /Why?/
*(rB)J: Eso, no quiere cumpleaños /That, (he) does not want birthday./
(XVIII:104)

*J: Ya no tiene /I does not have./
(refiriéndose a él) (referring to himself)
(XI-18)

PRESENT IN BOTH SETS, NOT ACQUIRED IN EITHER

Third singular subjunctive present - This form appeared initially

"inappropiately" used in II in the spontaneous set and used "appropiately" in IV. As a repetition it appeared in VI. The form used instead of it was the third singular present as a repetition. It was used instead of the imperative in both sets and instead of the third singular present in the spontaneous set only.

J: Para que no se dañe /So not to be damaged./
(IV-131)

S: ¡Qué sea un Kennedy: /That it will be a Kennedy!/
(rA)J: ¡Qué sea un Kennedy: /That it will be a Kennedy!/
(VI:9)

Third singular imperfect indicative - It appeared initially in the spontaneous set in XI; as a repetition in XXI. It was not acquired in either set, as this form was used only scantily. It was used once instead of the third plural imperfect indicative.

J: El barco iba a navegar /The ship was going to sail./
(XI:51)

S: Pero llevaba unos taquitos /But it carried some high heeled shoes./
(rA)J: Si, llevaba unos taquitos /Yes (it) carried some high heeled shoes/
(XXI:96)

PRESENT ONLY IN SPONTANEOUS SET

First plural preterit - It appeared initially and was acquired in XIV and was always used when required.

Third singular periphrastic future- It appeared and was acquired in XVII. It was used instead of the first singular periphrastic future.

J: Se va a subir /He is going to climb./
(XVII:618)

First singular subjunctive present - It appeared and was used initially in XXII, later in XXIV.

J: Cuando corte la cabeza /When I cut the head./
(XXIV:33)

Third plural subjunctive present- It appeared only once, in XXIII.

J: Que no hablen /That (they) don't talk./
(XXIII:20)

REQUIRED BUT NOT USED, ONLY IN THE SPONTANEOUS SET

Third plural imperfect indicative - This form was required but not used only once in the spontaneous set in XVI.

The form used instead of it was the third singular imperfect indicative.

Third singular imperfect indicative instead of third plural imperfect indicative

* J: Ah!, estaba quemando /Ah!, it was burning./
(XVI:224)

DIFFERENTIAL INFLUENCE OF REPETITIONS

Table 17 lists separately the frequency for each category of the repetitions. Figure 8 illustrates the trend of the "inaccurate" repetitions.

—Table 17—
—Figure 8

As Javier made very few "errors" in the set of repetitions, we cannot observe either an increasing or decreasing trend. We will now discuss each type of repetition.

"APPROPIATE" REPETITIONS

Positive influence (A)- This type of repetition occurred with all the forms present in the repetition set, namely the imperative, first and third singular present, first and third plural present, first, second and third singular preterit, third singular imperfect indicative, first singular and plural periphrastic future and third singular present subjunctive.

The positive influence was more evident in the forms that appeared initially in his system as this type of repetition. These were the first singular present in tape I and the second singular preterit in tape IV.

The imperative third singular present, third singular preterit and first plural periphrastic future appeared simultaneously in both sets, the spontaneous set and as this type of repetition.

Third singular present - See I:20 , page 87

First plural present - See IX:41, page 88

Third singular preterit - See I:87, page 90

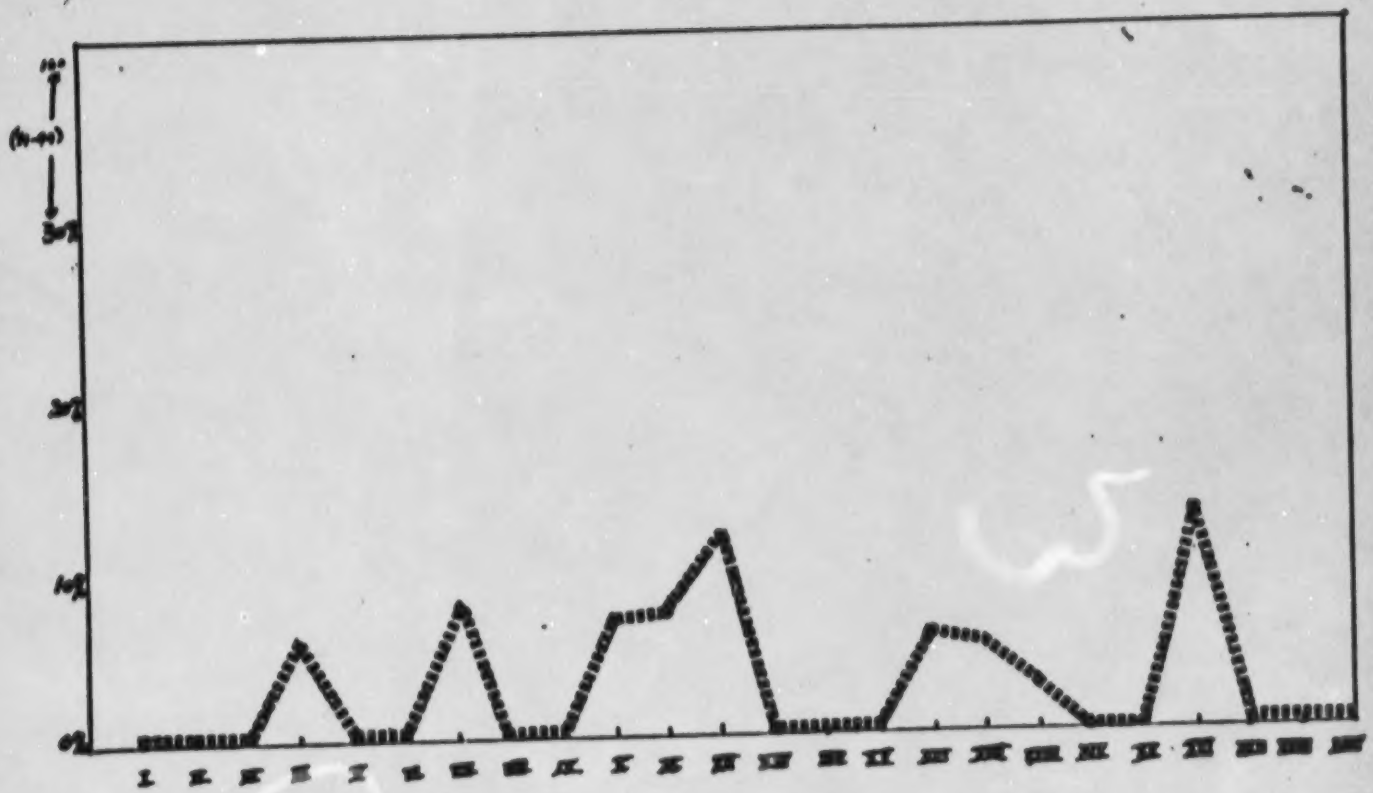
TABLE 17

TYPE OF REPETITIONS BY JAVIER

	TAPE																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
Positive influence (A)	4	7	1	6	0	1	7	2	3	3	28	15	7	6	7	6	25	22	5	5	16	14	3	10
percentage	80.0	58.3	25.0	35.3	0	33.3	46.7	66.7	30.0	17.6	65.1	57.7	70.0	27.2	46.7	35.3	64.1	61.1	50.0	16.7	50.0	45.2	27.3	71.4
Negative influence (B)	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
percentage	0	0	0	0	0	0	0	0	0	0	0	7.7	0	0	0	0	0	2.8	0	0	0	0	0	0
Imperviousness of system (C)	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0
percentage	0	0	0	5.9	0	0	6.7	0	0	5.9	0	0	0	0	0	5.9	2.6	0	0	0	0	0	0	0
Firm knowledge (D)	1	5	3	10	1	2	7	1	7	13	15	8	3	16	8	10	12.	13	5	25	12	17	8	4
percentage	20.0	41.7	75.0	58.9	100	66.7	46.7	33.3	70.0	76.5	34.9	30.8	3.0	72.7	53.3	58.8	30.8	36.1	50.0	83.3	37.5	54.8	72.8	28.6
No influence (E)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	4	0	0	0
percentage	0	0	0	0	0	0	0	0	0	0	0	3.8	0	0	0	0	2.6	0	0	0	12.5	0	0	0
Appropriate repetitions (A+D)	5	12	4	16	1	3	14	3	10	16	43	23	10	22	15	16	37	35	10	30	28	31	11	14
percentage	100	100	100	94.1	100	100	93.3	100	100	94.1	100	88.5	100	100	100	94.1	94.9	97.2	100	100	87.5	100	100	100
Inappropriate repetitions (B+C+E)	0	0	0	1	0	0	1	0	0	1	0	3	0	0	0	1	2	1	0	0	4	0	0	0
percentage	0	0	0	5.9	0	0	6.7	0	0	5.9	0	11.5	0	0	0	5.9	5.1	2.8	0	0	12.5	0	0	0

FIGURE 8

PERCENTAGE OF "INAPPROPRIATE" REPETITIONS



Javier ▪▪▪▪▪▪▪▪▪▪▪▪

Third singular subjunctive present - See IV:9, page 94

Imperative - See I-57 page 92

Firm knowledge (D)- It occurred in almost all the forms present in the repetitions system except the third singular present subjunctive and imperfect indicative.

First singular preterit - See VII:41, page 89

First singular periphrastic future - See VII:77, page 91

First singular preterit - See XIX:5, page 93

"INAPPROPIATE" REPETITIONS

In general, as mentioned before, Javier made very few "errors" in the use of verbs. The majority of the type or "errors" were made in the spontaneous set only.

Negative influence (B) - These type of "errors" occurred only with the use of third instead of first singular person in both the present and preterit indicative tenses. As these two "errors" had previously occurred spontaneously, they seem to be a reflection of his system at the time.

Third singular present instead of first singular present - See XVIII.104, page 93

Imperviousness of the system (C)- This type of "errors" was the most frequent and diverse in Javier's repetition speech. It occurred in the third singular present instead of imperative, exclusively as this type of repetition. The other "errors" which also occurred in the spontaneous set were the third singular instead of the plural present and preterit and the third plural instead of the singular preterit.

Third singular present instead of third plural present - See IV:17, page 88

Third singular preterit instead of third plural preterit - See VII:131 page 90

No influence (E) - This type of "error" interpreted as a reflection of his spontaneous "errors" occurred with the third singular present and subjunctive present instead of the imperative and the third plural instead of the singular preterit.

Third singular subjunctive present instead of imperative - See XVII:630, page 92

SUMMARY OF JAVIER'S VERB SYSTEM DEVELOPMENT

In the 10 months in which Javier's speech was taped, his system increased from 7 forms in 4 tenses to 19 forms in 6 tenses. The imperative, present and preterit appeared from the first tape on. The subjunctive present tense followed, with the imperfect indicative being the last to appear.

As noted, before, when he was first taped, his system was complex. The first and third singular person forms had appeared in 2 of the 3 tenses present, with the first singular person being the first to appear in the periphrastic future. In the other tenses which followed, the third singular person appeared initially.

His verb system was the most accurate of all. He made relatively few "errors"both in terms of diversity and frequency. A particularity of Javier's verb system was that he was the only child in which other forms were used instead of the third singular present form. However, this was still the form that was most often used instead of other persons.

In comparing the spontaneous and repetition sets, we find that it is more complex both in terms of forms present and acquired, and in terms of forms appearing initially in this set. As Javier did not repeat forms very frequently, this was to be expected. An unexpected and idyosincratic characteristic of Javier's spontaneous set was that it was less accurate than the set of repetitions, although it was not a significant difference. The set of repetitions, however, seemed to serve to acquire forms, as more of the forms present in both sets were acquired initially as repetitions.

Javier's system was the most complex of all the children taped, both in terms of forms present and forms acquired. He was the oldest child, and his speech was taped more often. He was taped by his aunt, who was very close to him, and who was more aware of the characteristics of his speech as he was being taped.

Javier's system is the one with more differences, not only with the data gathered with the children in Puerto Rico, but also with the data gathered in Boston.

IX COMPARISON OF THE PUERTO RICO CHILDREN

General background

Lina, Ginnie, Adrián and Javier are all children born and raised in Puerto Rico, exposed only to Spanish in their homes. Throughout the tapings, their ages ranged from 18 to 36 months.

Lina and Ginnie, the girls, showed common characteristics. They had almost the same age at the beginning of the study, and both live in a working class community. Lina, however, was an only child, and was usually with her mother and other adult relatives. Ginnie was the youngest of three children, and she was usually with her mother and other adult relatives, but also with her siblings.

Adrián and Javier, the boys, also shared common characteristics. They were older, and their language was more complex than Lina's and Ginnie's at the beginning of the study. They both belong to middle class families, and their parents are college educated. Adrián had a younger sister; Javier had an older brother. Both their mothers stayed home to take care of them.

Order of appearance of the verbs

In this analysis, we considered the order of appearance of the forms present in each child's system by the last tape. Chart XIV shows the order of appearance of verb forms in all the children.

-- CHART XIV --

Lina's system was the least complex one. By the last tape it included 8 forms in 4 tenses. All of these were present in the other children's systems. Ginnie's system was the one to follow, with 10 forms in the same 4 tenses. All of these forms were also present in Adrián's and Javier's systems. Adrián's system included 14 forms in 6 tenses. He shared all but one form with Javier's system, which was the most complex of them. This was the third singular future indicative,

which appeared only once in the last tape. Javier's system had 18 forms in 6 tenses. The forms present only in his system were the first and third imperfect indicative, the third plural subjunctive present, and the first plural preterit. All but the last form are not used very frequently.

When we first taped each child's speech, the tenses present in their systems were the imperative and the present indicative. In Lina, Adrián and Javier, the preterit was also present; in Javier and Adrián the periphrastic future was used, and in Adrián, the subjunctive present. By the last tape, the speech of all the children included the periphrastic future and the "inappropriate" use of the present subjunctive. For Adrián and Javier, the "appropriate" use of the subjunctive present was also evident by the last tape.

In the present and preterit, the first and third singular persons appeared simultaneously in all the children. In the periphrastic future, the first singular person was the first to appear, whereas for the subjunctive present (Adrián and Javier), the imperfect indicative (Javier) and the future indicative (Adrián), the third singular was the first person to appear.

Using the Spearman's rank order correlation test, we calculated the correlation between the order of appearance of the forms shared by the children. This is summarized in table 18.

-- Table 18 --

The pair of children with the highest correlations involved Ginnie, both with Lina and Javier (who had the least and most complex systems, respectively). The pairs with the lowest correlations involved Adrián. Unlike the data gathered in Boston, there seems to be no relationship between the degree of correlation and the complexity of the verb systems.

Chart XV gives the average rank orders of appearance. The least complex order is that for all the children (A), as it included only

TABLE 18

RANK-ORDER CORRELATION FOR APPEARANCE AND ACQUISITION OF FORMS IN LINA, GINNIE, ADRIÁN AND JAVIER

Pair of Children	APPEARANCE		ACQUISITION	
	Correlation Value	No.of Forms	Correlation Value	No.of Forms
Lina, Ginnie	.815*	8	.625	3
Lina, Adrián	.405	8	.450	4
Lina, Javier	.780*	8	.400	4
Ginnie, Adrián	.627*	10	.850	4
Ginnie, Javier	.815*	10	- .233	4
Adrián, Javier	.769*	13	.420	7

* Significant

the forms present in Lina, shared by the other children.

-- Chart XV --

We can observe that the order is the same for all of the samples, up to the second singular preterit. From that point on, orders (B) and (C) are quite different.

CHART XV

RANK ORDERS OF APPEARANCE IN LINA, GINNIE, ADRIAN AND JAVIER

(A)		(B)		(C)	
2	Imperative	2	Imperative	3.5	Imperative
2	First singular present	2	First singular present	3.5	First singular present
2	Third singular present	2	Third singular present	3.5	Third singular present
4.5	First singular preterit	5	First singular preterit	3.5	First singular preterit
4.5	Third singular preterit	5	Third singular preterit	3.5	Third singular preterit
6	First singular periphrastic future	5	First singular periphrastic future	3.5	First singular periphrastic future
7	Second singular preterit	7	Second singular preterit	7.5	Second singular preterit
8	First plural present	8	First plural present	7.5	Third singular subjunctive present
		9	First plural periphrastic future	9	Third plural present
		10	Third singular periphrastic future	10	First plural present
				11	First plural periphrastic future
				12.5	Third plural preterit
				12.5	Third singular periphrastic future

(A) - Lina, Ginnie, Adrián, Javier (B) Ginnie, Adrián, Javier (C) Adrián, Javier

Order of Acquisition

Chart XVI shows the order of acquisition of verb forms in all the children.

-- Chart XVI --

In terms of forms acquired, Ginnie's is the least complex system, with 4 forms in 3 tenses, all of which were acquired by the other children. It was followed by Lina's with 5 forms in 3 tenses. Her system includes the acquisition of the first singular present form, a form acquired only by her. Adrián's system follows, with 7 forms in 4 tenses, all of which were acquired by Javier. Javier's system is the most complex one, with 11 forms in 4 tenses. The forms acquired exclusively by Javier are the first singular and plural periphrastic future and the first and third plural preterit.

We can observe that for all the children but Javier, the first forms to be acquired were the third singular present and preterit, since the first tape. All the children acquired the imperative, although it was a later acquisition for Ginnie and Adrián. The tense to follow for both Adrián and Javier (who have the more complex systems) was the periphrastic future.

In terms of the acquisition of persons, we find that, except for Lina, the first form to be acquired was the third singular person, similar to the Boston data. The other person to follow, for all but Ginnie, was the first plural (present for Lina, Adrián and Javier; periphrastic future for Adrián and Javier). Lina was the only child to acquire the first singular present (in fact, she did not even use it "inappropriately" once), and Javier was the only child to acquire the first singular preterit and periphrastic future, although these forms were present in all of the children. Although Javier's system included both the imperfect indicative and the subjunctive present, he did not acquire any of the forms in these tenses.

Chart XVII shows the rank order of acquisition in the forms shared by all the children.

-- Chart XVII --

Table 18 shows the rank order correlation for the acquisition of forms of all the children. We can observe more diversity in these pairs of correlations than we found in the Puerto Rico data.

The correlation for acquisition of forms, higher than that of appearance involved mostly Adrián. The highest correlation was with Ginnie, followed by Lina and lastly by Javier. In this last pair, the correlation for the order of appearance was higher.

When we compare the correlation for the order of appearance and the order of acquisition, we find that in all the pairs involving Javier, the value is higher for the appearance, and that in general, the values for acquisition are small, including a negative correlation with Ginnie.

There seems to be no relationship between the orders of acquisition of the children and either the order of appearance or the complexity of their systems. In general, the correlation values are smaller for the acquisition than for the appearance of forms.

.Comparison of "Errors"

Except for Lina, the majority of the "errors" were shared in all of the children. We found the same pattern of the use of the third singular present instead of the majority of the other forms required, and specifically its use instead of the first singular present form. In Lina, the third singular present form was not used "inappropriately" at all.

The "error" of the use of third singular instead of the first singular person was also evident in other tenses for all of the children. In Lina, it was in the preterit tense. In Ginnie, Adrián and

CHART XVII

RANK ORDERS OF ACQUISITION IN LINA, GINNIE, ADRIÁN AND JAVIER

(A)		(B)		(C)	
1	Third singular preterit	1	Third singular preterit	1	Second singular preterit
2	Third singular present	2	Second singular preterit	2	Second singular preterit
3	Imperative	3	Third singular present	3.5	Third singular present
		4	Imperative	3.5	Imperative
				5	First plural present
				6	First plural periphrastic future
				7	Third singular periphrastic future

(A) Lina, Ginnie, Adrián, Javier (B) Ginnie, Adrián, Javier (C) Adrián, Javier

Javier, the "error" was made in the preterit and in the periphrastic future tense.

All of the children also used other forms instead of the imperative, which we had found in the Boston data. Specifically, the third singular subjunctive present form was used instead of it. In Lina and Ginnie this was the only use of this form, for Adrián and Javier it was subsequently used in "appropriate" contexts.

In Ginnie, Adrián and Javier we also find the use of many different forms in"inappropriate" ways although not very frequently. Javier is the only child in which the third singular present form was not always used as required, a characteristic we had not found in the Boston data.

Influence of Repetitions

For all the children but Javier, the set of repetitions was significantly less accurate than the spontaneous set. This is consistent with the data gathered in Boston. However, in all of the children the set of repetitions was less complex than the spontaneous set both in terms of the forms present and the forms acquired.

Repetitions seemed to have influenced the accuracy of the verb system for the majority of the children, but not the complexity. However, in all of the children there were forms either present only in the set of repetitions, or acquired only in that set. In all of the children we can also observe positive influence of repetitions, as there are forms introduced through this set. This influence, however, does not seem as important in magnitude as that we found in the Boston data. We can't be sure whether these differences are due to individual children's styles or to the interactional styles of particular adults (primarily Belendez in Boston, and García-Blanco and Melendez-Rivera in Puerto Rico).

X COMPARISON BETWEEN THE BOSTON AND THE PUERTO RICO CHILDREN

In the Boston data, we had found that there seemed to be a common pattern of appearance and acquisition of the verb forms in all the children studied, and that the orders of correlation were all rather high, with the order of acquisition being higher, although not significantly so due to the smaller size of the set.

In the Puerto Rico data we find more diversity between the children, both in terms of appearance and acquisition. There does not seem to be a relationship between the complexity of the systems, and either the appearance or acquisition of forms.

In order to get a more accurate picture of the differences, we calculated the correlations between the orders of acquisition and appearance of the verb forms for all the children, regardless of which of the groups they belonged to. This information is summarized in table 19.

-- Table 19 --

We can observe that in terms of the appearance of forms, for Lina, Adrián and Javier, the correlations are higher with the Boston children than with each other. In fact, the highest correlation between any pair of children is that between Lina and Rafael, who had the least complex systems in each of the groups. As was the case with Rafael, Lina's correlations are the highest when compared with the Boston children.

In all of the cases, the lowest correlations involved Amed, who had the more complex system. This is the same for Javier, who also had the most complex system in the data gathered in Puerto Rico.

In the case of Javier, we find that the correlation for the order of appearance is higher with the Puerto Rico children than with the Boston children. This, however, is not the case with the order of acquisition.

TABLE 19

RANK ORDER OF CORRELATION VALUES FOR APPEARANCE AND REQUISITION OF FORMS IN ALL CHILDREN

Pair of Children	APPEARANCE Correlation Value	APPEARANCE Number of Forms	ACQUISITION Correlation Value	ACQUISITION Number of Forms
LINA				
Lina, Rafael	.986*	6	1.0	2
Lina, Felix	.958*	8	.450	4
Lina, Carlos	.810*	8	.875	3
Lina, Amed	.661*	8	.875	3
Lina, Ginnie	.815*	8	.625	3
Lina, Adrián	.405	8	.450	4
Lina, Javier	.780	8	.400	4
GINNIE				
Ginnie, Rafael	.786*	6	.500	2
Ginnie, Felix	.721*	9	.500	3
Ginnie, Carlos	.776*	10	1.00	3
Ginnie, Amed	.648*	10	1.00	3
Ginnie, Lina	.815*	8	.625	3
Ginnie, Adrián	.627*	10	.850	4
Ginnie, Javier	.815*	10	-.233	4
ADRIÁN				
Adrián, Rafael	.804*	7	1.0	2
Adrián, Felix	.730*	12	1.0*	4
Adrián, Carlos	.834*	13	.436	6
Adrián, Amed	.454*	13	.325	5
Adrián, Lina	.405	8	.450	4
Adrián, Ginnie	.627*	10	.850	4
Adrián, Javier	.769*	13	.420	7
JAVIER				
Javier, Rafael	.313	7	.500	2
Javier, Felix	.451*	13	-.350	4
Javier, Carlos	.269	17	-.304	7
Javier, Amed	.247	17	.514	6
Javier, Lina	.780*	8	.400	4
Javier, Ginnie	.815*	10	-.233	4
Javier, Adrián	.769*	13	.420	7

TABLE 19 (continued)

Pair of Children	APPEARANCE Correlation Value	APPEARANCE Number of Forms	ACQUISITION Correlation Value	ACQUISITION Number of Forms
RAFAEL				
Rafael, Felix	.964*	7	1.0	2
Rafael, Carlos	.929*	7	.50	2
Rafael, Amed	.857	7	1.0	2
Rafael, Lina	.986*	6	1.0	2
Rafael, Ginnie	.786*	6	.500	2
Rafael, Adrián	.804*	7	1.0	2
Rafael, Javier	.313	7	.500	2
FELIX				
Felix, Rafael	.964*	7	1.0	2
Felix, Carlos	.780*	13	.875	3
Felix, Amed	.871*	13	.875	3
Felix, Lina	.958*	6	.450	4
Felix, Ginnie	.721*	9	.500	4
Felix, Adrián	.738*	12	1.0*	4
Felix, Javier	.451*	13	-.350	4
CARLOS				
Carlos, Rafael	.929*	7	.50	2
Carlos, Felix	.780*	13	.875	3
Carlos, Amed	.740*	16	.946*	7
Carlos, Lina	.810*	6	.875	3
Carlos, Ginnie	.776*	10	1.00	3
Carlos, Adrián	.834*	13	.436	6
Carlos, Javier	.269	17	-.304	7
AMED				
Amed, Rafael	.857*	7	1.0	2
Amed, Felix	.871*	13	.875	3
Amed, Carlos	.740*	16	.946*	7
Amed, Lina	.661*	8	.875	3
Amed, Ginnie	.648*	10	1.00	3
Amed, Adrián	.454*	13	.325	5
Amed, Javier	.247	17	.514	16

In terms of the orders of acquisition, we can also observe, in general, higher correlations between each child in Puerto Rico with the children in Boston, than with each other.

As with the patterns of spontaneous vs. repetition forms, individual differences seem to be the most reasonable explanation of the greater diversity in the development of the verb system in the Puerto Rican children. Social class cannot be an influence because the development of Felix (a working-class child) did correlate highly with the other Boston children and also with Adrián, one of the middle-class children in Puerto Rico. And exposure to English cannot have been an influence because as mentioned above, the Puerto Rican children's development correlated more highly with the Boston children than with each other. (Besides, the most likely influence of exposure to a second language should be to increase diversity in patterns of acquisition in the first language rather than reduce it.)

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